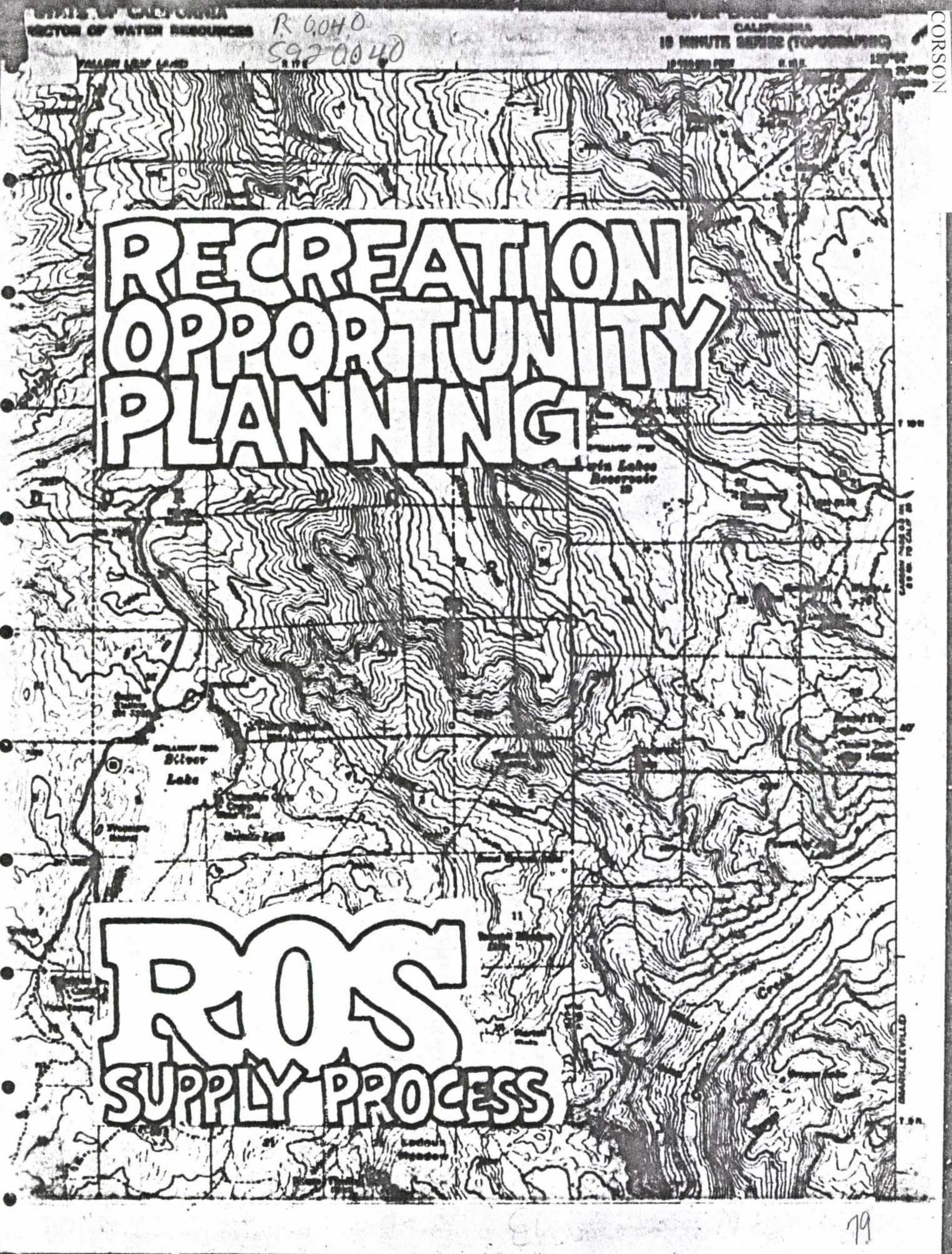


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RECREATION OPPORTUNITY PLANNING

ROS SUPPLY PROCESS



INTEGRATION OF RECREATION OPPORTUNITY
PLANNING INTO LAND AND RESOURCE MANAGEMENT PLANNING

by

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AS A FOLLOW-UP TO THE OUTDOOR RECREATION MANAGEMENT SHORT COURSE CONDUCTED
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ABSTRACT

This paper contains an overview of National Forest Land and Resource Management Planning and how the supply process of Recreation Opportunity Planning operates. It explains that the Recreation Opportunity Spectrum evolved from other recreation inventory systems and incorporates a multi-dimensional concept of interaction between activities, setting and experiences. The setting (environment) is defined in terms of physical-biological, social and managerial criteria that form a framework for delineating recreation opportunities into six classes which relate to visitor's desires. It provides a guideline with illustrations that can be followed to delineate land areas and determine their maximum recreation potential.

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INTEGRATION OF RECREATION OPPORTUNITY PLANNING INTO LAND AND RESOURCE MANAGEMENT PLANNING

I INTRODUCTION

Residents of Northern California and Western Nevada currently enjoy a wide variety of recreation experiences on the Eldorado. What kind, where and when recreation opportunities will be allocated is one of the objectives of land and resource planning. This can only be accomplished by a systematic process like Recreation Opportunity Planning. Chief Peterson has made it clear that planning is the key in allocating National Forest recreation resources.

The purpose of this paper is to demonstrate how to integrate the Recreation Opportunity Planning into land and resource management planning.

Forest land and resource management planning is being carried out on most National Forests with a target completion date of December 31, 1983. On the Eldorado, we have started and expect to complete the Forest Plan by April 1983.

In the past, unit multiple use plans were designed to integrate resource management activities. These were supplemented by functional plans such as: recreation composite plans, timber management plans and wilderness plans.

A. CONGRESSIONAL LEGISLATION

During the 1960's and on into the 70's, Congress passed a multitude of laws that each contained specific requirements to guide resource management.

The two statutes that provide very specific management direction for National Forest System lands are the 1974 Forest and Rangeland Renewable Resources Planning Act (RPA) and in 1976 the National Forest Management Act (NFMA). These two laws updated many older planning principles and incorporated new concepts about land stewardship. Together, they provided for three levels of planning - National, Regional and Forest. At each level, the land and resource management plan provides strong direction in the form of goals, objectives, standards, guidelines and general program emphasis. These plans specify what is to be done and generally where and when. The Forest plan will be implemented through project plans which tell how and where activities will take place.

B. NATIONAL DIRECTION

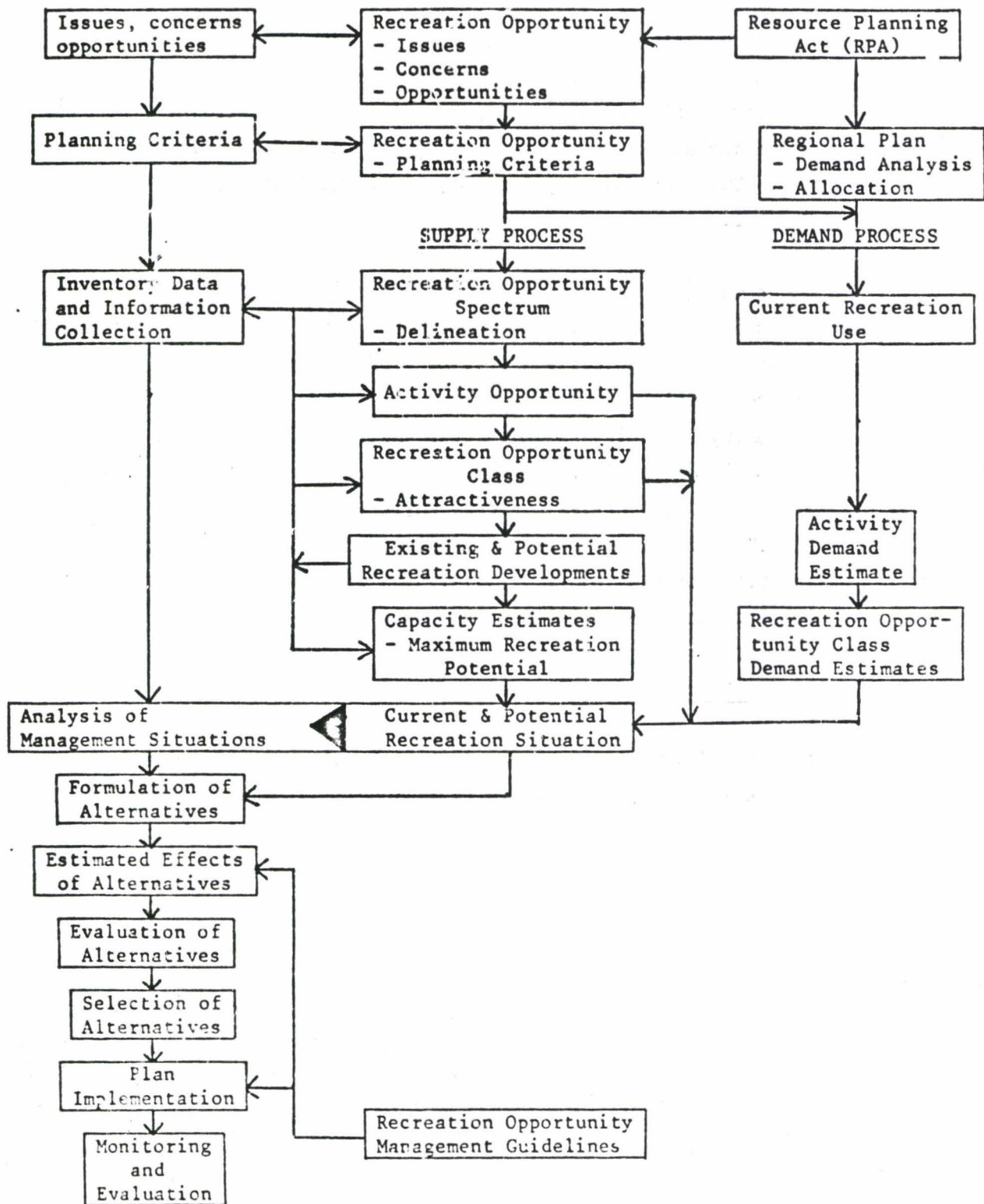
The Forest Service, through the Secretary of Agriculture and published in the Federal Register, established regulations to guide land and resource planning in September 1979. These rules implemented provisions of RPA and NFMA. They emphasize and require the integration and coordination of resource and protection planning activities at all organizational levels. These regulations specify that an interdisciplinary approach be used in land and resource planning and that there will be periodic review of the planning process, followed by necessary amendments to keep it current with new laws and executive orders.

The NFMA Regulations called for the development of a formal planning process that has been established by 36 Code of Federal Regulation part 219 (36 CFR 219). Regional and Forest planning process approaches are set forth in section 219.5. The Forest planning procedure is defined in section 219.11 and Forest planning actions in 219.12.

CHART 1

INTEGRATION OF RECREATION OPPORTUNITY PLANNING

WITH THE LAND AND RESOURCES MANAGEMENT PLANNING PROCESS



C. REGIONAL PLANNING

The 1969 National Environmental Policy Act process will be a part of the Regional and Forest planning process. The general planning approach will consist of a systematic set of interrelated actions which include at least those set forth in 36 CFR 219.5 (b) through (k). These are displayed on page 3 of the left-hand portion of Chart I.

Under the general planning approach the "Forest Plan will address the goals and objectives established by the Regional Plan."^{1/} These assigned objectives will be evaluated to determine if "they are compatible with local supply and demand, economic efficiency, community stability and potential environmental effects. Based upon this evaluation, the Forest Supervisor may request adjustment of assigned objectives prior to their incorporation into the Forest Plan." This planning process reflects changing conditions through identification of public issues, management concerns, and use and development opportunities.

D. FOREST IMPLEMENTATION

The Eldorado National Forest formal planning process, under the NEPA regulation, was officially announced on October 17, 1979. The news release advised the public that Eldorado National Forest intended to prepare a Forest Plan that would provide direction for all the uses. A series of public workshops were conducted to

^{1/} This phrase, in quotation, is a direct quote from the Code of Federal Regulations, Part 219.

define the issues to be addressed in the plan. At each of the five local workshops a package of material containing a preliminary list of issues (developed by the Forest staff), screening criteria, public participation plan, Forest fact sheet, and public response forms were provided to each participant.

To aid the public, we presented a brief overview of the planning process and a quick picture of present resource use. We pointed out that National Forests in California made up 20 percent of the land area and in the four-county area which includes the Eldorado it is 44 percent. Eldorado Forest lands yield enough water to supply 8 million people each year. Forest receipts to the 4 counties in 1979 were 4.7 million dollars. Wood fiber provides a portion of the heating for 10,000 homes annually and enough lumber to construct 12,000 houses. Four thousand cattle utilize grass, brush and forbes. More than 175 lakes and 350 miles of streams provide a home for trout and other aquatic life. Some 2,000 miles of roads and 550 miles of trails supply access to 1/2 million acres of wildland and 83,000 acres of Wilderness. There are 120 developed recreation sites ranging from campgrounds to winter sport sites that provide 1 million visitor days of use annually. Dispersed area use exceeds 1-1/2 million visitor days each year.

The Eldorado is bisected, east and west, by two major trans-Sierra highways (US 50 and 39), that provide access for 9 million people who are within 4 hours driving time of the Forest. Their demand for goods and services has increased to the point where many uses are in competition with one another. All the demands for each resource cannot be met, so conflicts occur and choices must be made.

Based upon the public input at the workshops and comments received over a 60-day period, the Forest Plan issues, concerns and opportunities are being refined and finalized.

During this same period, the Forest Interdisciplinary Team, of which I am a member, has prepared a preliminary listing of inventory data and information needed to prepare the Forest Plan Management Situation.

E. RECREATION PLANNING

The Forest "recreation opportunity planning" is a two-part process which responds to the Forest issues, concerns, and opportunities that have recreation orientation. As shown in the center and left portion of Chart 1, it consists of a supply process and a demand process. The supply process utilizes the Recreation Opportunity Spectrum (ROS) system as a framework to define the types of outdoor recreation opportunities that the public might desire and indicates what portions of Forest land and resources would be allocatable to the six classes of the spectrum. This provides a better method for quantifying recreation capacity, which when correlated with demand will be used to develop the current and potential recreation situation (which is an integral part of "analysis of the management situation").

This paper will address the supply process, specifically ROS, as it relates to land and resources management planning.

II STATEMENT OF PURPOSE

The primary objective of this paper is to demonstrate how the supply process of recreation opportunity planning utilizes the Recreation Opportunity Spectrum (ROS) system to provide consistent and uniform input to land and resources management planning.

It will be shown that ROS is a multi-dimensional concept which incorporates an interaction between what people do (activity) in an environment (setting) to obtain a psychological outcome (experience).

- .ROS is a relatively simple, easy, inexpensive and uniform method to delineate large land areas into six settings.
- .If given any two visitor preferences one can predict the third (activity + setting = experience).
- .System will be used to measure outputs (acres, persons-at-one-time, recreation visitor days).
- .Setting is key component of the system as it controls both activities and experiences.
- .The principles of and the process itself can be understood and applied in one day.
- .This system can be used by any landowner or manager to project recreation opportunities potential.
- .One can determine which parcels of lands by classes can be shifted to another class of the spectrum. This provides the ability to assess changes in land use and evaluate alternatives.
- .This method solidifies the physical/biological, social and managerial characteristics into a simple component-setting.
- .ROS classes can provide the manager with a highly visible system to establish objectives and project obtainable targets to meet RPA goals or various levels of program funding (program planning budgeting).
- .The system can be computerized and interfaced with other systems.

This information is key to the preparation of a valid assessment of the current and potential recreation situation that is one element in formulating the Forest Plan Management Situation. Chief Peterson stated at the October 1970 National Recreation and Parks Association meeting in New Orleans, "that planning was the key in allocating National Forest recreation resources." It is essential to know what is available, how people are recreating, informing visitors of the opportunities and know how to integrate recreation with non-recreation activities.

III LITERATURE REVIEW

Thirty-two references including laws, regulations, internal directives, other federal, state, and private research papers were examined to obtain a larger perspective of outdoor recreation - especially the social and psychological visitor attitudes and the Recreation Opportunity Spectrum system. Those that provided the greatest information were:

U.S.D.A. - Forest Service

1981 Recreation Opportunity Planning Guidelines for Land and Resource Management Planning. Draft January 15.

U.S.D.A. - Forest Service

1977 The Forest Service Roles in Outdoor Recreation. U.S. Department of Agriculture Program AFD.

U.S.D.A. - Forest Service, Agricultural Handbook #462

1971 National Forest Landscape Management Volume 2. The Visual Management System.

U.S. Congress

1975 National Forest Management Act

Brown, P. J., B. L. Driver, C. McConnell

1978 The Opportunity Spectrum Concept and Behavioral Information in Outdoor Recreation Resource Supply Inventories: Background and Application. In: Integrated Inventories of Renewable Natural Resources: Proceedings of the Workshop (Gyde H. Lund, et. al., tech. coord.) U.S.D.A. Gen. Tech. Rpt. RM-55, Rocky Mt. For. and Range Exp. Sta., Fort Collins, CO. pp. 73-84.

Clark, Roger N. and George H. Stankey

1979 The Recreation Opportunity Spectrum. A Framework for Recreation Planning, Management and Research. Unedited draft 3/79. 50 p.

Driver, B. L. and Perry J. Brown

1978 The Opportunity Spectrum Concept and Behavior Information in Outdoor Recreation Resource Supply Inventories: A Rationale. In: Integrated Inventories of Renewable Natural Resources: Proceedings of the Workshop. (Gyde H. Lund, et. al. tech. coord.) U.S.D.A. Gen. Tech. Rpt. RM. 55. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO. pp 24-31.

Heberlein, Thomas A.

1977 Density, Crowding and Satisfaction: Sociological studies for determining carrying capacities. In Proceedings: River Recreation and Management Research Symposium. U.S.D.A. For. Serv. Gen. Tech. Rep. NC-28. North Central For. Exp. Sta., St. Paul, Minn., p. 67-76.

The following is a complete annotated list of literature that was reviewed.

Clark, Roger N. and George H. Stankey

The Recreation Opportunity Spectrum, A Framework for Recreation Planning Management and Research, unedited draft 3/79

This dissertation proposes a system for managing recreation opportunities based on six physical-biological, social, and managerial factors that can be utilized by recreationists to obtain various experiences. Clark and Stankey state that "the end product of recreation management is the provision of a diverse range of opportunities from which people can derive various experiences".

Driver, B. L.

1972 Potential Contributions of Psychology to Recreation Management
in press in Environment and the Social Sciences pg. 233-244
University of Michigan.

This paper describes why recreation opportunities are increasing in social importance. It points out the need for recreation resource managers to have a better background in social and behavioral sciences so recreation decisions can more readily meet the total human needs. He also explains how the psychologist can help the recreation resource manager in meeting his responsibilities.

Driver, B. L. and Perry J. Brown

- 1975 A Social-psychological definition of recreation demand, with implications for recreation resource planning. Assessing demand for outdoor recreation. Nat. Res. Council. Comm. on Assessment of Demand...ed. NAG-NRC Rep. (unnumb.), Wash., D.C. P. 63-88.

The authors propose that the behavioral variable, one of the many variables in analyzing recreation demand, is given too little attention. They go on to explain the role that behavioral information can play in developing a better picture of the recreation experience (why a person participates, etc.), and the satisfaction and/or benefits that accrue (social values that are derived from experiences). They provide examples of how it can be integrated with other variables to provide more complete recreation demands analysis on which to base resource allocation or decisions.

Driver, B. L. and Perry J. Brown

- 1978 The Opportunity Spectrum Concept and Behavior Information in Outdoor Recreation Resource Supply Inventories: A rationale Integrated Inventories of Renewable Natural Resources: Proceedings of the workshop. (Gyde H. Lund et al, tech. coord.) U.S.D.A. Gen. Tech. Rep. RA-55. Rocky Mountain Forest and Range Experiment Station, Fort Collins, Colorado, pp. 24-31.

The writers propose that planners and managers recognize behavioral science parameters in inventorying and managing recreation opportunities. They define four levels of recreation opportunity demand in terms of psychological parameters (recreation opportunity demand hierarchy). The importance of these demands is then discussed in terms of inventorying the

recreation potential of resources, through the Recreation Opportunity and Resource Classification Spectrum (RORCS). This concept incorporates the idea of activity and experience opportunity which helps managers understand the outputs that visitors can expect from outdoor recreation resource management.

This paper describes how the Outdoor Recreation Resource Supply Inventory and Classification System fits into a general planning framework. It provides a general discussion of several other inventory systems explaining their strong points and weaknesses and their applicability. The proposed Supply Inventory and Classification (SIC) System is described in terms of being used to provide regional and forest recreation planning data for establishing goals and objectives (regional) and compatibility and suitability to produce specific outputs (forest). These are arrayed in table form to show the relationship between consumer preference, by opportunity class, for experiences at the physical, social and managerial setting.

Hendee, John C., Roger N. Clark, Mack L. Hogan, Dan Wood and Russell W. Rock

1976 1 Code-A-Site: A system for inventory of dispersed recreational sites in roaded areas, back country and wilderness.

Code-A-Site utilizes edge punch cards to inventory dispersed recreation sites that visitors select along forest roads and trails, back country, or in wildernesses. It provides a uniform method for recording, storing and retrieving basic site data such as: location, resource information, area attractions and opportunities, special problems, and ecological conditions. This data can be retrieved at the field level as needed for planning, management, research and updating.

Heberlein, Thomas A.

- 1977 Density, crowding, and satisfaction: Sociological studies for determining carrying capacities. Taken from Proceedings: River Recreation Management and Research Symposium, U.S.D.A. Forest Service General Technical Report N.C.-23. North Central Forest Experimental Station, St. Paul, MN p. 67-76.

Four types of carrying capacities are discussed: physical, ecological, facilities and social. It is emphasized that carrying capacity can best be set when specific management objectives are established. Satisfaction alone is not a suitable criterion for management. The manager must know what type of recreation experience is to be provided and for whom, then determine what actually happens, visitor assessment, crowding versus density.

Lime, David W., and George H. Stankey

- 1971 Carrying Capacity: Maintaining Outdoor Recreation Quality. Recreation Symposium Proceedings Northeastern Forest Experiment Station, Upper Darby, PA. pp. 174-184.

This paper discusses the concept of recreational carrying capacity and how it relates to the management objectives, visitor attitude and impact on physical resources. They portray how these elements interact and then develop several techniques of managing for carrying capacity.

Peterson, George L. and David W. Lime

1979 People and Their Behavior, A Challenge for Recreation Management.

The authors "develop the concept of behavioral systems approach that calls for analysis of the human decision process behind a problem". They provide several examples of why managers fail to properly analyze a problem and the general steps that can be followed to solve a problem. They suggest several methods for influencing the way people behave.

Phillips, Robert and Steve Hendricks

1979 Interfacing Recreation into Land Management Planning - Nantahala and Pisgah National Forests, North Carolina - Recreation Resource Analysis. Lecture and paper.

Phillips stated that the current land management planning process provides the opportunity to bring all resource to the same level at the same time. This whole process is built on issues and concerns which dictate inventory and its intensity. It is important to have data in a form that can be retrieved and updated. Hendricks provides a detailed explanation of the Outdoor Recreation Opportunity Spectrum (O.R.O.S.) mapping system and how it could be digitized.

Saunders, Paul R., Herman F. Senter and James P. Jarvis

1979 Forecasting Recreation Demand in the Upper Savannah River Basin. Study Report for the U.S. Army Corps of Engineers, Clemson University, Clemson, South Carolina. 23 p.

The authors develop a rather simple and quick method to predict recreation demand for fourteen recreation activities contiguous to four major reservoirs and include a fifth which will be in operation by 1985. Since the Upper Savannah River Basin is not a major destination recreation area, they used three market area categories (0-80 kilometers, 81-150 kilometers and 150+ kilometers). This market was subdivided into rural and urban population centers. The demand model was developed for two existing and the new reservoirs with the assumption that future recreation demand would parallel future population growth. A gravity model was used to allocate demand for the selected activities among the river basin recreation facilities. Total demand consisted of met and unmet demand and was predicted for 1975, 1980, 1990, 2000 and 2010. The model can be updated easily to incorporate more or new data and supply more detailed information as to the supply of facilities needed to meet future needs.

Shechter, Mordechai and Robert C. Lucas

1978 Simulation of Recreation Use of Park and Wilderness Management. Published for Resources for Future by the Johns Hopkins University Press. Baltimore and London. 294 p.

This book reports the development and the testing of a model that simulates the behavior of wilderness visitors. It describes the field testing of the model and the results of that test. The authors include a description of the model, discuss input data, validation tests, experimentation with the simulator and use of the model as an alternative to trial and error for determining probable results of potential use patterns. One section, chapter 9, (written by Line, Anderson and McCool) explained the practical

application of the simulation to predict patterns of recreation use on the Green and Yampa Rivers. The authors propose that the simulator technique could be applied to any kind of dispersed recreation where flows of visitors and their interaction (encounters) are a concern.

Stankey, George H., Robert C. Lucas, and David W. Line

- 1974 Patterns of Wilderness Use Related to Congestion and Solitude. Paper presented at the annual meeting of the Association of American Geographers, Seattle, Wash. April 29. 17 p.

This paper deals with the recreational experience issue as wilderness use continues to increase. The authors discuss the factors of size, length of use season, proportion of "effective" acreage use distribution and the number of encounters between groups which provide use patterns that are crucial for management decisions. They explain strategies to offset congestion and present them in tabular form.

- 1974 Stankey, George H. - Criteria for the Determination of Recreation Carrying Capacity in the Colorado River Basin. In: Environmental Management in the Colorado River Basin. Published by Utah State University Press, Logan, Utah.

Purposes a criteria framework for determining carrying capacity strategies and discusses five categories of recreation activity preference types. They are labeled according to the general type of motivation they fulfill: appreciate-symbolic, extractive-symbolic, passive free-play, sociable learning and active-expressive.

State of California, the Resource Agency - Department of Parks and Recreation

1978 The User's Guide to PARIS - Parks and Recreation Information System.

It is a computerized data system created and used by the State Department of Parks and Recreation for recreation planning. This system consists of three elements: supply, demand and demand/supply deficiency evaluation. The private and public inventory of facilities and activities was gathered from 1974-76 with data coded by agency, county, landscape provinces, BOR class, planning district and geopiece. PARIS calculates "actual demand" by the use of existing facilities. "Potential demand" estimates are based on per capita participation rates (determined by seven socio-economic characteristics) for 22 recreation activities. Demand was initially allocated by travel time zones from metropolitan population centers on the projected 1985 highway network. It is now allocated to geopieces (subcounty geographic units) by travel time zones based on its suitability and capacity to accommodate that activity demand. Facility deficit or surplus is determined by calculating the number of facilities needed to accommodate peak demand. PARIS is available to other agencies or to firms which are interested in evaluating the potential for developing facilities or as an aid in planning.

State of California. The Resource Agency - Department of Parks and Recreation

1974 CORRP — California Outdoor Recreation Resources Plan

This plan presents an overview of the outdoor recreation situation, the need for facilities, recommendations for implementing the plan, recognizes the need to study issues and the coordination needed with federal, state and local governments and the private sector to provide recreation opportunities. The largest section of the plan takes an in-depth look at recreation in each of California's ten planning districts. Each section identifies needs and deficiencies and recommends actions that can be taken.

State of California. The Resource Agency - Department of Parks and Recreation

1979 Rec. Tip No. 10 - Why Go to the Park? Questions to Measure Parks, People, and Patterns.

This report summarizes the finding of three universities in their preparation of a questionnaire that California could use to survey recreation visitors. It provides the field test responses to a series of questions on demographics, travel, satisfaction, development preference scale, sources of information, activities, social interaction and motivations. This will also provide other resource agencies an opportunity to develop their own questionnaire from this study.

Sudia, Dr. Theodore W. and James M. Simpson

1973 Recreation Carrying Capacity of the National Parks. In Guideline
- A Publication of the Park Practice Program. Vol. 3, No. 3
May/June p. 25-34.

The authors discuss the concept of carrying capacity in order to provide an objective guideline for park managers so they can judge when an "area has reached its full capacity and that additional visitors will result in unacceptable deterioration." They emphasize that many major factors that determine use are contained in enabling legislation and within the mandate of the agency's administration. They point out that the personal satisfaction an individual derives from a "park experience" will depend to a great extent on their first experience. Their theory is that "carrying capacity is not a primary factor in the interaction of people and a resource, but is a dependent factor which is subject to precise definition after the parameters of park development have been determined." These parameters are those elements of park planning and development that determine how people are to be accommodated and contained within the park. They contend that "from each developed facility, there flows a transition of disturbance from the center to some place in the natural environment."

Wagar, J. Alan - Recreation Carrying Capacity Reconsidered

1974 Reproduced from Journal of Forestry, May 1974, Volume 72, numbers by the Forest Service, U.S. Department of Agriculture.

This article points out that by focusing attention on physical site carrying capacity that the psychological experiences and its resulting benefits may not receive proper weight when use limitations are considered. Each area has a whole range of potential capacities and in making allocations managers must consider each area as an element within a total system of areas.

U. S. Congress

1974 Forest and Rangeland Renewable Resource Planning Act. In: The Principle Laws relating to Forest Service Activities Agricultural Handbook No. 453 USDA Forest Service. In Section 2.(4) Congress found "the new knowledge derived from coordinated public and private research program will promote a sound technical and ecological base for effective management use and protection of the Nation's renewable resources". Section 3 discusses the assessment and its updating at ten year intervals after 1979. It should include "an inventory of present and potential renewable resources, and an evaluation of opportunities for improving their yield of tangible and intangible goods and services...". Section 5 speaks to National Forest System Resource Inventories by saying - "This inventory shall be kept current so as to reflect changes in conditions and identify new and emerging resources and values". When revising unit plans under the multiple use principle, "in particular, include coordination of outdoor recreation, range, timber, watershed, wildlife, fish and wilderness—".

U. S. Congress

1976 National Forest Management Act

Section 2 of the Act concludes that "the management of the Nation's renewable resources is highly complex" and subject to change. It finds that the public interest is best served by Forest Service cooperation with other agencies in making a comprehensive assessment of the Nation's renewable resources, present and anticipated uses, demand and supply for both public and private lands. New knowledge from research would be applied for effective management, use and protection. The Forest Service would be the leader and catalyst to encourage and assist private landowners in the long-term use and improvement of lands.

Section 6 amends RPA by adding subsections that require the development of land management plans that "insure consideration of the economic and environmental aspects of various systems of renewable resource management, including the related system of silviculture and protection of forest resources, to provide outdoor recreation (including wilderness)---".

U.S.D.A. - Forest Service

1977 The Forest Service Roles in Outdoor Recreation. U.S. Department of Agriculture Program Aid 1235

The Forest Service role is: 1) Cooperate with private interests, local and state governments and Federal agencies by sharing its knowledge, resources and capabilities. 2) Develop, administer and protect National Forest System lands in a manner that produces opportunities for quality recreation experiences and related services in conjunction with the provision of other goods and services. 3) Conduct research to aid effective recreation management on all forest and rangelands and provide information that enhances the National Forest visitor's experiences.

U.S.D.A. - Forest Service, Agricultural Handbook #434

1973 National Forest Landscape Management Volume 1

This handbook provides service-wide approach for recognizing and designing visual resource management guidelines. It portrays visual terminology and explains landscape management concepts. Through the use of pictures and illustrations, the reader is shown how the three basic concepts, the four dominance elements, the six dominance principles and the eight variable factors can be used to analyze landscapes.

U.S.D.A. - Forest Service, Agricultural Handbook #452

1974 National Forest Landscape Management Volume 2 -- The Visual Management System

This volume builds on the principles of Volume 1. It develops a process for analyzing the variety classes, (physical features of the land) with sensitivity level (people's concern for scenic quality) to produce visual quality objectives. The VQO indicates the degrees of acceptable alternation of the natural landscape. They are represented by five visual resource management goals (preservation, retention, partial retention, modification and maximum modification).

U.S.D.A. - Forest Service, California Region

1973 Visual Resource Management Guides - Visual Quality Standard Determination and Application

This handbook sets out Region-wide visual quality guidelines which apply to all forest management activities. It explains and portrays the visual quality standards from preservation to maximum modification. The visual sensitivity is illustrated by

classifying user sensitivity and visual perception sensitivity levels. Another section develops landscape character types by dividing them in three variety classes. It illustrates via overlays the development of visual quality standards by combining variety classes, user sensitivity levels and the perceptual sensitivity levels. Another section develops the visual resource capability concept.

U.S.D.A. - Forest Service, California Region

1976 Visual Absorption Capacity - VAC

This 25 page paper deals with the land's ability to absorb activities and yet attain a desirable future visual quality objective. It explains the purpose of VAC, what it is, the need for it, the process for determining it and how it can be viewed and used to analyze a land use proposal. The concept melds physical factors, perceptual factors, existing visual quality and the proposed activity factors into a revised quality objective based upon the selected management action.

U.S.D.A. - Forest Service, California Region

1975 San Joaquin Planning Area Guide - Review Draft

The purpose of this draft guide was "to provide management direction for the planning of land and related water resources to meet expected future demands". It contains background information and data on past planning direction, standards, the Forest Service role and socio-economic systems.

U.S.D.A. - Forest Service, Northern Region - Charles A. Tribe

1972 Recreation Carrying Capacity, 23 p.

The author briefly presents the basic concepts of outdoor recreation carrying capacity being considered by present research. He utilizes field experience to supplement and expand the principles by citing specific examples. This is followed by a discussion of establishing management and managing for carrying capacity. The major portion of this paper provides some general sideboards for capacity by six recreation activities. He concludes by offering a framework for estimating recreation carrying capacity.

U.S.D.A. - Forest Service, California Region

1973 Northern California Planning Area Guide. This document contains the "record of decision" by the Regional Forester to adopt Alternative VI as the Area Guide for National Forest lands and waters in the Northern California Planning Area. It will be effective until replaced by a Regional plan that is adopted under Section 6 of NFMA regulations. The summary relates that the greatest "concerns are the relationship between the Forest Service and county governments; proper stewardship of National Forest land; concern for the environment; and provision of an adequate supply of raw materials, services and opportunities". It predicts that transportation modes will change recreation use patterns and the private sector will meet more of the developed recreation demand. Our goals will be to provide opportunities for dispersed recreation, encourage facilities development on non-national forest land, provide people with opportunities to understand the environment and National Forest activities, and doing the least physical disturbance of the environment in recreational development.

U.S.D.A. - Forest Service

1971 Recreation Planning Handbook 2279.13

This handbook is a guide that explains the process for solving recreation management problems. The objective is to help the reader understand planning relationships, process, implementation, review and monitoring elements that are involved in preparing a well thought out plan.

U.S.D.A - Forest Service

1990 Recreation Opportunity Planning Guidelines for Land and Resource Management. January 15 draft.

This paper explains how guidelines can be integrated into the land and resource management planning process. It contains a detailed explanation of the Recreation Opportunity Spectrum (ROS) and how it provides a framework to define outdoor recreation opportunities.

U.S.D.I. - Bureau of Outdoor Recreation

1973 Outdoor Recreation - A Legacy for America

The United States has a very diverse population, vast climatic contrasts and great geomorphic differences. Many agencies of government and a large number of organizations are responsible for managing recreation. There is a need for more effective coordination in matching resources and facilities with continued growth in recreation demands.

U.S.D.I. - Bureau of Outdoor Recreation - Contract with Urban Research
Development Corporation - Bethlehem, Pennsylvania

1977 Guidelines for Understanding and Determining Optimum Recreation
Carrying Capacity

This report stresses the need for guidelines to help determine optimum carrying capacity levels. It presents study results that contribute toward a better understanding and an approach that can be used by recreation planners and administrators to select an optimum carrying capacity from a range of instant capacities for 55 different recreation activities. These guidelines can also be used to determine the best areas for various activities, predict management implications of site plans and effect balance between recreation activities and support facilities. Carrying capacity ranges will provide a basis for evaluating the need to or not to mitigate use limits.

IV STATEMENT OF METHODS

A DESCRIPTION

Several approaches have been proposed and developed to classify land by their opportunities for recreation experiences. They are: (1) Bureau of Outdoor Recreation - Recreation Area Classification Plan, Classes I through VI. (2) Region 1's Recreation Opportunity Inventory and Evaluation, (3) Sanford's Recreation Inventory Instructions, (4) Canadian Land Inventory, and (5) Recreation Opportunity Spectrum. The system judged the best to meet Forest planning needs - responding to local issues and concerns - was the Recreation Opportunity Spectrum (ROS). It combines the better features of the other classification approaches into a framework for displaying recreation opportunities and experiences. (Driver and Brown as modified by Clark and Stankey and Forest Service.

Chart 2

RECREATION OPPORTUNITY SPECTRUM

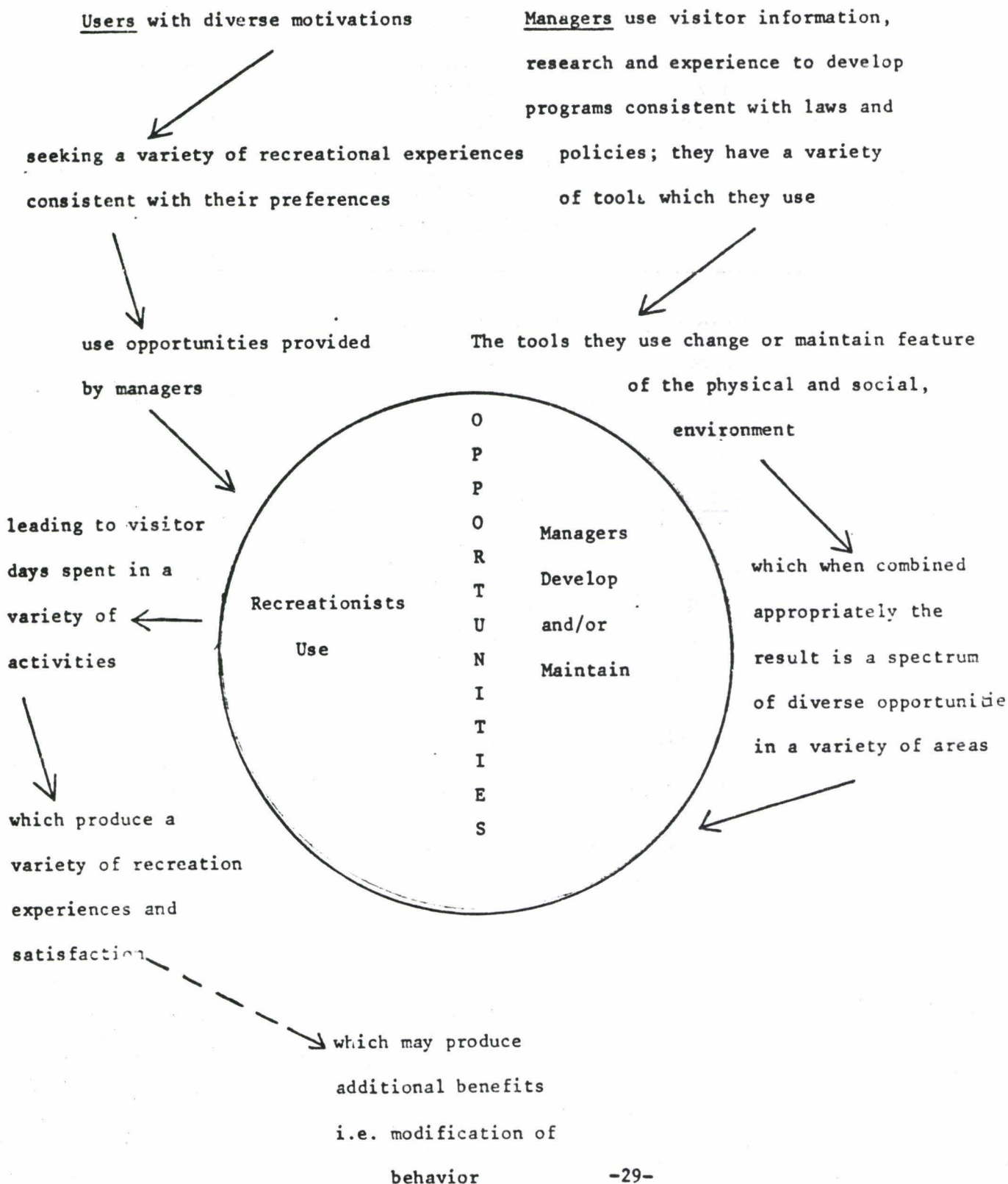
ROS

	Semi				
	Primitive	Semi			
Primitive	Non-	Primitive	Roaded	Rural	Modern
	Motorized	Motorized	Natural		Urban
(P)	(SPNM)	(SPM)	(RN)	(R)	(MU)

The Recreation Opportunity Spectrum (ROS) meets the direction of regulations 219.12(i) that implements NEPA - chart 1. A broad spectrum of dispersed and developed recreation opportunities in accord with identified needs and demands will be provided. Forest planning will identify: (1) physical and biological characteristics that make land suitable for recreation opportunities; (2) the recreation preference of user groups and the settings needed to provide quality recreation.

Chart 3 portrays the interaction between the visitor's desires and the recreation opportunities that are developed or maintained by the land and resource manager.

CHART 3 - INTERACTION BETWEEN VISITOR'S DESIRES AND OPPORTUNITIES



ROS is the concept of land prioritization for recreation which incorporates an interaction between these components:

CHART 4
MULTI-DIMENSIONAL CONCEPT OF OPPORTUNITY CLASSES

Activity (things to do)	Setting (Environment)	Experience (Quality)
	(Physical/biological)	(Satisfaction)
	(Social characteristics)	(Psychological
	(Managerial characteristics)	outcome)

CHARTS 5, 6 and 7 contain descriptions by ROS classes for recreation activity settings and experiences. They provide a framework of references for the planner so he has a general view of how changes in settings effect visitor activities and experiences.

B. ROS SYSTEM

The ROS system can be utilized in recreation planning to identify and quantify the types of opportunities that a given parcel of land is presently providing. It allows managers to measure the consequences of alternative allocations, and assess the change of recreation opportunities that result from adjusting goals, objectives and targets.

The two elements of Recreation Opportunity Planning are supply and demand. We will focus on supply and the key component of "setting".

CHART 5

RECREATION OPPORTUNITY SPECTRUM

The Recreation Opportunity Spectrum, with associated activity opportunities, recreational setting requirements, and experience opportunities that are highly probable for each spectrum class. This is a table of general descriptors of the three components of the spectrum classes. There might be specific activity exceptions to these general characteristics.

<u>Spectrum Class</u>	<u>Activity Opportunities</u>	<u>engaged in</u>	<u>Recreational Setting</u>	<u>to realize</u>	<u>Experience Opportunities</u>
Primitive (P)	Viewing Outstanding Scenery Enjoying Unique and/or Unusual Environments Hiking Cross-country ski touring and snowshoeing Horseback Riding Canoeing Sailing Other, nonmotorized watercraft use Swimming Diving (Skin or Scuba) Fishing Photography Camping		Area is characterized by essentially unmodified natural environment of fairly large size. Interaction between users is very low and evidence of other area users is minimal. The area is managed to be essentially free from evidence of man-induced restrictions and controls. Motorized use within the area is not permitted.		Extremely high probability of experiencing considerable isolation from the sights and sounds of man, independence, closeness to nature, tranquility, and self-reliance through the application of woodsman skills in an environment that offers a high degree of challenge and risk.
Semi-primitive non-motorized (SPNM)	Snowplay Hunting (big, small game, upland birds and waterfowl) Nature Study Acquiring General Knowledge/Understanding Unguided Hiking General Information		Area is characterized by a predominantly natural or natural-appearing environment of moderate-to-large size. Interaction between users is low, but there is often evidence of other users. The area is managed in such a way that minimum on-site controls and restrictions may be present, but are subtle. Motorized use is not permitted.		High, but not extremely high, probability of experiencing the above listed natural environment elements.

RECREATION OPPORTUNITY SPECTRUM

Spectrum Class	Activity Opportunities engaged in	Recreational Setting to realize	Experience Opportunities
Semi-primitive motorized (SPM)	<p>All of the activities mentioned in above Classes plus the following:</p> <p>Motor-driven ice and snowcraft ORV touring Power boating</p>	<p>Area is characterized by a predominantly natural or natural-appearing environment of moderate-to-large size. Concentration of users is low, but there is often evidence of other area users. The area is managed in such a way that minimum on-site controls and restrictions may be present, but are subtle. Motorized use is permitted.</p>	<p>Moderate probability of experiencing the above listed natural environment elements, except that there is a high degree of interaction with the natural environment. Explicit opportunity is available to use motorized equipment while in the area.</p>
Roaded Natural (RN)	<p>All of the activities mentioned in above Classes plus the following:</p> <p>Picnicking Gathering Forest Products Auto Touring Water Skiing & Other Water Sports Automobile Camping Trailer Camping Viewing Interpretive Signs Organization Camping Lodges Power Boating Resort-Commercial Public Services Resort-Lodging</p>	<p>Area is characterized by predominantly natural appearing environments with moderate evidences of the sights and sounds of man. Such evidences usually harmonize with the natural environment. Interaction between users may be low to moderate, but with evidence of other users prevalent. Resource modification and utilization practices are evident, but harmonize with the natural environment. Conventional motorized use is provided for in construction standards and design of facilities.</p>	<p>About equal probability to experience affiliation with other user groups and for isolation from sights and sounds of man. Opportunity to have a high degree of interaction with the natural environment. Challenge and risk opportunities associated with more primitive type of recreation are not very important. Practice and testing of outdoor skills might be important. Opportunities for both motorized and non-motorized forms of recreation are possible.</p>

RECREATION OPPORTUNITY SPECTRUM

<u>Spectrum Class</u>	<u>Activity Opportunities</u>	<u>engaged in</u>	<u>Recreational Setting</u>	<u>to realize</u>	<u>Experience Opportunities</u>
Rural (R)	<p>All of the activities mentioned in above classes plus the following:</p> <p>Competition Games Ice Skating Scooter-Motorcycle Use Bicycling Spectator Sports Jogging Passive Use of Developed Parks and Open Space Picnicking Outdoor Concerts</p>	<p>Area is characterized by substantially modified natural environment. Resource modification and utilization practices are primarily to enhance specific recreation activities and to maintain vegetative cover and soil. Sights and sounds of man are readily evident, and the interaction between users is often moderate to high. A considerable number of facilities are designed for use by a large number of people. Facilities are often provided for special activities. Moderate densities are provided for away from developed sites. Facilities for intensified motorized use and parking are available.</p>	<p>Probability for experiencing affiliation with individuals and groups is prevalent as is the convenience of sites and opportunities. These factors are generally more important than the setting of the physical environment. Opportunities for wildland challenges, risk-taking, and testing of outdoor skills are generally unimportant except for specific activities like downhill skiing, for which challenge and risk-taking are important elements.</p>		
Modern-Urban (MU)	<p>All of the activities mentioned in above Classes.</p>	<p>Area is characterized by a substantially urbanized environment, although the background may have natural-appearing elements. Renewable resource modification and utilization practices are to enhance specific recreation activities. Vegetative cover is often exotic and manicured. Sights and sounds of man, on-site, are predominant. Large numbers of users can be expected, both on-site and in nearby areas. Facilities for highly intensified motor use and parking are available with forms of mass transit often available to carry people throughout the site.</p>	<p>Probability for experiencing affiliation with individuals and groups is prevalent, as is the convenience of sites and opportunities. Experiencing natural environments, having challenges and risks afforded by the natural environment, and the use of outdoor skills are relatively unimportant. Opportunities for competitive and spectator sports and for passive uses of highly man-influenced parks and open spaces are common.</p>		

As Chart 1 shows, the supply elements will ultimately define the current and potential recreation situation. This is largely dependent upon the sum of the physical-biological, social and management opportunities.

1. Delineation of ROS Classes

The planning area will be apportioned on a map by using the six classes based on the physical, social and managerial criteria.

a. Physical Setting - It is qualities provided by nature in the form of vegetation, landscape, topography and scenery as modified by human activity.

(2) Remoteness - is the physical capability of a parcel of land to produce various outdoor recreation activity and experiences in relation to the sights and sounds of man. This is measured in terms of miles or equivalent screening or physical barriers. This criteria is particularly important for the primitive and semi-primitive classes.

On the base map being used for land management planning, delineate all roads based upon two standards: 1) primitive (single lane and unsurfaced), 2) other than primitive and also designate motorized trails and railroads.

CHART 8

REMOTENESS CRITERIA

<u>Primitive</u>	<u>Semi-primitive non-motorized</u>	<u>Semi-primitive motorized</u>	<u>Roaded natural</u>	<u>Modern Rural urban</u>
3 miles from roads, rail- roads or trails with motorized use.	1/2-3 miles from roads, railroads, or trails with motorized use; can include prim- itive roads and trails usually closed to motor- ized use.	0-1/2 mile from primitive roads or trails used by motor ve- hicles, but greater than 1/2 mile from other than prim- itive roads.	0-1/2 mile from other than primi- tive roads, railroads and trails with motor- ized use.	No distance criteria.

The Primitive Zone is tentatively delineated on an overlay by a line which is drawn 3 miles from any road, railroad, or motorized trail. It's important to remember in this step that the objective is to determine those lands which are effectively screened from the sights and sounds of man's activity. Hence, the suggested distances which have been developed by field studies. These may be modified by local conditions (i.e., open, flat, treeless areas may require greater distances while steep slopes, vegetative screening or topographic barriers might mean lesser distances). Application of the other criteria might modify this tentative delineation. It should also be remembered that special land classification such as research natural areas, wilderness and wild river designation do not necessarily mean these areas will automatically be placed in the primitive zone.

This remoteness criteria facilitates the feeling (recreation experience) of self-reliance which is often part of visitor's satisfaction when visiting a primitive setting and to some degree in the semi-primitive setting.

The semi-primitive non-motorized zone is tentatively defined as an area not qualifying as primitive but is 1/2 mile from any road, railroad or motorized trail. Can include primitive roads and trails which are usually closed to motorized use.

The Semi-primitive Motorized zone is all areas less than 1/2 mile from primitive roads and motorized trails but greater than 1/2 mile from other than primitive roads.

Roaded Natural class is from 0 to 1/2 mile from other than primitive roads, railroads and motorized trail use.

There is no delineation based on remoteness for rural and modern-urban classes.

(2) Size of Area is the second physical criteria that has an important effect on the types of outdoor recreation experience an area is capable of providing. The visitor's perception of openness or room is important to his expectation and recreation satisfaction.

Adjust the remoteness class lines by using chart 9 - Size Criteria.

CHART 9
SIZE CRITERIA

		Roaded		
<u>Primitive</u>	<u>Semi-primitive non-motorized</u>	<u>Semi-Primitive motorized</u>	<u>Roaded Natural</u>	<u>Modern Rural urban</u>
5,000 acres	2,500 acres*	2,500 acres		No size criteria

*Smaller if contiguous to primitive class area.

Primitive Zone - An area which is 5,000 acres or larger and is a minimum distance of 1 mile from the center to the nearest perimeter is considered primitive.

Semi-primitive Motorized Class is an area of at least 2,500 acres except it can be smaller if contiguous to a primitive class area.

Semi-primitive Motorized class area should be a minimum of 2,500 acres. Larger areas are preferred.

There is no minimum size criteria for the roaded natural appearing, rural or modern-urban classes.

- (3) Evidence of Human is the third physical criteria that reflects the type and scale of human modification of the environmental setting which would influence recreation activities and experiences.

Portraying the human modification on a separate overlay helps to identify dominance or non-dominance and compatibility of the non-recreational resource use. Included are all major physical developments such as utility lines, dams, radio relay towers, airports, railroads, timber harvest clearcut areas over 10 acres, type conversions, mines, disposal, quarries or borrow sites, water facilities and lasting impacts of presuppression fuelbreaks or roads created for fire suppression.

The evidence of human criteria described in Chart 10 is followed in determining how the previously drawn class lines will be adjusted. When these boundary changes have been made, the physical setting map is completed.

CHART 10
Evidence of Human Criteria*

Primitive	Semi-Primitive Non-Motorized	Semi-Primitive Motorized	Roaded Natural	Rural	Modern-Urban
*Natural landscape appears unmodified to the pedestrian observer wandering through the area.	*Natural landscape remains dominant to the pedestrian observer wandering through the area.	*Natural landscape remains dominant to slow moving vehicular oriented observer.	Landscape has an overall natural appearance to the travel route observer. Resource alterations in this landscape remain unnoticed or visually subordinate.	Landscape is culturally modified to the point that it is dominant to the travel route observer. May include pastoral, agricultural, intensively managed wildland resource landscapes, or utility corridors.	Landscape is strongly structure dominated. Natural appearing landscape may play an important role but be visually subordinate.
Changes in the landscape are not evident to the average person unless pointed out.	Changes in the landscape are noticed by the average pedestrian in foreground but do not attract attention.	Changes in the landscape are noticed by the average slow moving vehicular oriented observer but do not attract attention.	However, to the pedestrian or slow moving observer moving through the area these landscape resource alterations may range from being easily noticed to strongly dominant.	Pedestrian or other slow moving observers are constantly aware of the culturally changed landscape designed primarily for intensive resource production, communications, energy transportation, etc.	Pedestrian and other slow moving observers are constantly aware of artificial enclosure of spaces.
Evidence of trails is acceptable, but should not exceed standard to carry expected use.	Little or no evidence of primitive roads and the motorized use of trails and primitive roads.	Strong evidence of primitive roads and the motorized use of trails and primitive roads.	There is strong evidence of engineered roads and/or highways.	There is strong evidence of engineered roads and/or highways.	There is strong evidence of engineered roads and/or highways and streets.
Structures are extremely rare.	Structures are rare and isolated.	Structures are rare and isolated.	Structures are generally scattered remaining visually subordinate or unnoticed to the motorized travel route observer.	Structures may range from scattered to small dominant clusters including power lines, microwave installations, local ski areas, minor resorts and recreation sites.	Structures and structure complexes may include major resorts and marinas, national and regional ski areas, towns, industrial sites, condominiums or second home developments.

*In many southern and eastern forests what appears to be natural landscapes may in actuality be strongly influenced by man. The term natural appearing may be more appropriate in these cases.

b. Social Setting

This is the second component of the setting element. It indicates the amount of social interaction and the acceptability of visitor use (impact) on the resources or on other people. These two criteria are displayed in Chart 11 - Social Criteria.

Visitor Impact indicates the level of wear and tear on the resource that is consistent with the type of recreation opportunity being supplied. The wording in the chart reflects how much (magnitude) and the importance, which is a value judgement.

Visitor Density describes the level of contact between users based on the preception of an appropriate level for the spectrum classes. It relates to the numbers and distribution of people within an area and how their interaction affects others.

Apply the visitor impact and density criteria to the physical setting class delineation and on a new overlay indicate the social setting.

CHART 11

SOCIAL CRITERIA

<u>SOCIAL</u> Element	<u>Recreation Opportunity Spectrum Classes</u>					
	Modern-Urban	Rural	Roaded Natural	Semi-Primitive Motorized	Semi-Primitive Non-Motorized	Primitive
Evidence of user impacts	Impacts from wear and tear on resource facilities and from littering are common.	Impacts are common, but less so than for modern-urban class.	Impacts common at concentrated sites and moderately common in dispersed use areas.	Impacts limited mostly to roads and trails for motorized use.	Moderate evidence of user impacts.	Little evidence of user impacts.
Frequency of user encounters or density of use.	Large numbers of users on-site and in nearby areas.	Frequency of contact is: <u>Mod. to High:</u> In developed sites, on roads & trails & water surfaces. <u>Mod:</u> Away from developed sites.	Frequency of contact is: <u>Mod:</u> On roads and trails. <u>Low to Mod:</u> Away from roads.	Low to moderate contact frequency.	5-10 parties/day encountered on trails and 6 or less parties visible at camp site.	Less than 6 parties per day encountered on trail and less than 3 parties visible at campsite.

c. Managerial Setting

The criteria indicates the amount and type of management taken to control recreation use. They speak directly to the nature, extent and level of regimentation. These controls range from subtle techniques like visitor information (signing) to more visible on-site management modifications (traffic barriers). The appropriateness of the managerial setting modification can be judged on the basis of its extent, visibility, and complexity. These can be quantified in terms of distribution, amount, apparentness and types of facilities. This criteria is displayed in Chart 12 - Managerial Criteria.

Apply the managerial criteria to the physical setting class delineation and on the social overlay define any changes or inconsistencies.

CHART 12

MANAGERIAL CRITERIA

<u>MANAGERIAL</u>	<u>Recreation Opportunity Spectrum Classes</u>					
	Modern-Urban	Rural	Roaded Natural	Semi-Primitive Motorized	Semi-Primitive Non-Motorized	Primitive
Managerial regimentation and noticeability	Controls obvious and numerous, largely man-made. Law enforcement may be highly visible.	Controls obvious and numerous, largely in harmony with the man-made environment.	On-site controls (barriers and permits) are noticeable, but harmonize with the natural environment.	On-site restrictions and controls present but subtle. Motorized equipment used for mainte- nance and construction.	On-site restrictions and controls present but subtle.	On-site freedom allowed. Controls off-site, enforce- ment incidental.

This completes the summation of the physical/biological, social and managerial setting and has produced a framework, Recreation Opportunity Spectrum, that guides the supply process. In order to develop the complete dimension of the supply process a series of qualitative and quantitative elements are applied within each ROS class. They consist of activity opportunities, landscape attractiveness, existing and potential recreation development, and capacity estimates.

2. Inconsistency

All three elements of the setting, physical, social and managerial, should produce the same ROS classes. Should one or more of the descriptions be outside the parameters established, see Charts 5-7; there may be an inconsistency. If they are, they are inconsistent and two maps will be prepared to provide a basis for the development of management alternatives. The ROS system provides a framework for looking at outdoor recreation opportunities distribution and a procedure that can assess management action. Chart 13 portrays the analysis that can be made to test for consistency. This example illustrates that physical/biological and management setting elements rate in the semi-primitive non-motorized while the social setting condition occur from semi-primitive motorized to roaded-natural or rural depending upon the season of use. Hence, an apparent inconsistency exists.

Following Clark and Stankey's lead we can explore the situation by asking three key questions:

- "How did the inconsistency occur?
- "What are the implications of the inconsistency?
- "What should be done about the inconsistency?

CHART 13

EXAMPLE OF AN INCONSISTENCY

MANAGEMENT FACTORS		RECREATION OPPORTUNITY TYPES					
		PRIMITIVE	SEMI-PRIMITIVE		ROADED NATURAL APPEAR	RURAL	MODERN URBAN
			NON- MOTORIZED	MOTORIZED			
P H Y S I C A L	B I O L O G I C A L	1. REMOTENESS	X				
		2. SIZE OF AREA	X				
		3. EVIDENCE OF HUMANS	X				
		4. VISITOR IMPACT		X			
		5. VISITOR DENSITY			X (S)	X (W)	
M G T.		6. REGIMENTATION	X				

X = existing condition for each management factor.

S = Summer

W = Winter

a. How did it occur?

Several factors could be responsible for any inconsistency. It could be a product of prior management action (e.g. improvement of primary transportation route-trans-Sierra highway and yearlong access) and its long-term affect on recreation use intensity and impact were not fully anticipated. If these effects had been completely predicted, the decision to upgrade the road may not have been made, or relocated elsewhere, or not opened to winter traffic.

Perhaps the impacts had been considered and it was decided that a difference kind of opportunity was needed in the area.

Different administrative jurisdictions may have been involved. The private land was developed to a rural level and the contiguous ownership had only limited influence through the county planning department and/ board of supervisors as to type and scope of the development - one owner controlled the managment action and the latter the recreation opportunity.

It might have been a management objective to provide better access to a primitive setting to permit easy entry for the physically disabled.

Perhaps access was changed to alleviate a safety problem that had developed from increasing winter use in a primitive setting.

b. What are the implications?

Stated another way - what are the consequences of the action or interaction? As Clark and Stankey point out in the case of the Lake Kachness Area, "each action at Lake Kachness changed the nature of the opportunity the area provided". Originally it was a primitive setting. As management responded to recreation use impacts, following improved access for building a reservoir, both the access and facilities were improved. The area evolved from a primitive setting to a "modern recreation setting". Recreation visitation remained high and people enjoyed the experiences.

This is an example of reacting to a situation rather than having established management objectives with a well thought out course of action. I'm not saying that one setting was better than the other. The process of change was not planned for, and a chain of events led to a change in visitors. Original visitors had to go elsewhere to find a primitive experience (visitor displacement).

This makes us realize that recreation is a system and when one element changes others are affected.

c. What should be done?

Managers must be aware of inconsistencies, monitor them and evaluate the management actions that will provide the most desirable recreation opportunity. This could be in the form of "no action" when no substantial change is anticipated or when other jurisdictions control the inconsistency. For example, local zoning changes the

density of development against a contiguous owner. The cost of providing improvements and regimentation on the adjacent publically owned land is outweighed by any benefits, so no action may be appropriate.

Another response would be to restore the inconsistency to the parameters that previously existed. As an example, primitive roads used as access to harvest timber or to construct a dam could be permanently closed or access restricted in order to restore consistency.

A third approach would be to alter the other elements to align them with the original inconsistent one. This could be a planned management decision to provide a different recreation opportunity in response to changes in demand.

3. Activity Opportunities

People engage in certain activities in response to a given environmental setting to realize a total recreation experience. This portion of the recreation opportunity planning process is designed to identify activity opportunities by ROS Classes that exist or are potential. They must meet the criteria evaluation standards.

To maintain consistency it is appropriate to use Recreation Information Management (RIM) code definitions and codes to identify activities.

The proposed activities must meet the following criteria:

- a) The resource must be able to sustain the impact of the use.
- b) The activity is suitable for the environmental setting as defined by the range shown for ROS classes in charts 5, 6 and 7.

- c) There is a demonstrated public need as opposed to all kinds of demands for activities that may not be suitable on the National Forests.
- d) Activity is suitable as defined in the National and Regional Direction.

Existing Activities will be identified and inventoried by RIA activity codes by ROS classes. When activities are not appropriate for the range defined in the National Direction, or there is an inconsistency in ROS physical, social or managerial components, they should be addressed in the management alternatives.

The Potential Activities that reflect the identified issues, concerns, and opportunities will be identified on a separate overlay. These can be translated in alternates.

4. ROS Class Attractiveness

The attractiveness rating is a classification by variety classes of landscapes that contain the most variety or diversity of form, line, color and texture to those that have the least scenic quality. Variety Classes range from A which have outstanding feature attractions which are often subjects for pictures to, B which contain some variety but lack a major dominant feature and are pleasant to view to, C which has little to no variety and monotonous to view.

A separate overlay is prepared by using the descriptions contained in Volume 2, Chapter 1 of the National Forest Landscape Management Handbook #452.

5. Recreation developments

Prepare an overlay which shows the kinds and amounts of existing recreational development on all lands regardless of ownership. The mapped area should extend outside the Forest boundary to include developments that may affect the formulation or evaluation of plan alternatives.

On another overlay, define potential development sites for those uses or activities identified in the issues, concerns and opportunities step. Much of the information should be available from previously prepared composite plans, environmental assessments, etc.

6. Capacity estimates

The final step in the supply process is to determine the maximum recreation potential for each ROS class. This defines the maximum opportunity supply that the area to be studied can provide.

As the planning process is refined it will be necessary to obtain capacity quantification in a variety of forms. The system described here will be expanded to incorporate new concepts or study results. The person-at-one-time (PAOT) theoretical capacity for all existing developed sites will be totaled for each ROS class within a given land area. This information is available from RIM records. Next the maximum PAOT capacity of the dispersed area will be calculated for each ROS class.

It will be necessary to develop ROS class capacity criteria which apply to a given area. Personal knowledge of the area and the actual characteristics of the terrain and landscape are needed to establish a criteria range. The planner combines information on vegetative types and patterns, land forms, soils and aspects with the ROS description (charts 5, 6, and 7) to estimate the recreation use capacity. It is recognized that lower capacities occur where vegetation is sparse, the terrain is flat, where there are sensitive soils or vegetation and when in a primitive ROS class. Higher capacities exist where vegetation is thicker, on more highly developed sites and in the modern-urban ROS class.

Chart 14 provides an example of capacity coefficient ranges (which is the total class capacity divided by acres in the class) which was developed for a number of settings in the Northern Rockies. They may be applied to other settings or can be used to evaluate coefficient values established for a planning area.

CHART 14
CAPACITY COEFFICIENT RANGES
(In PAOT/Acre)

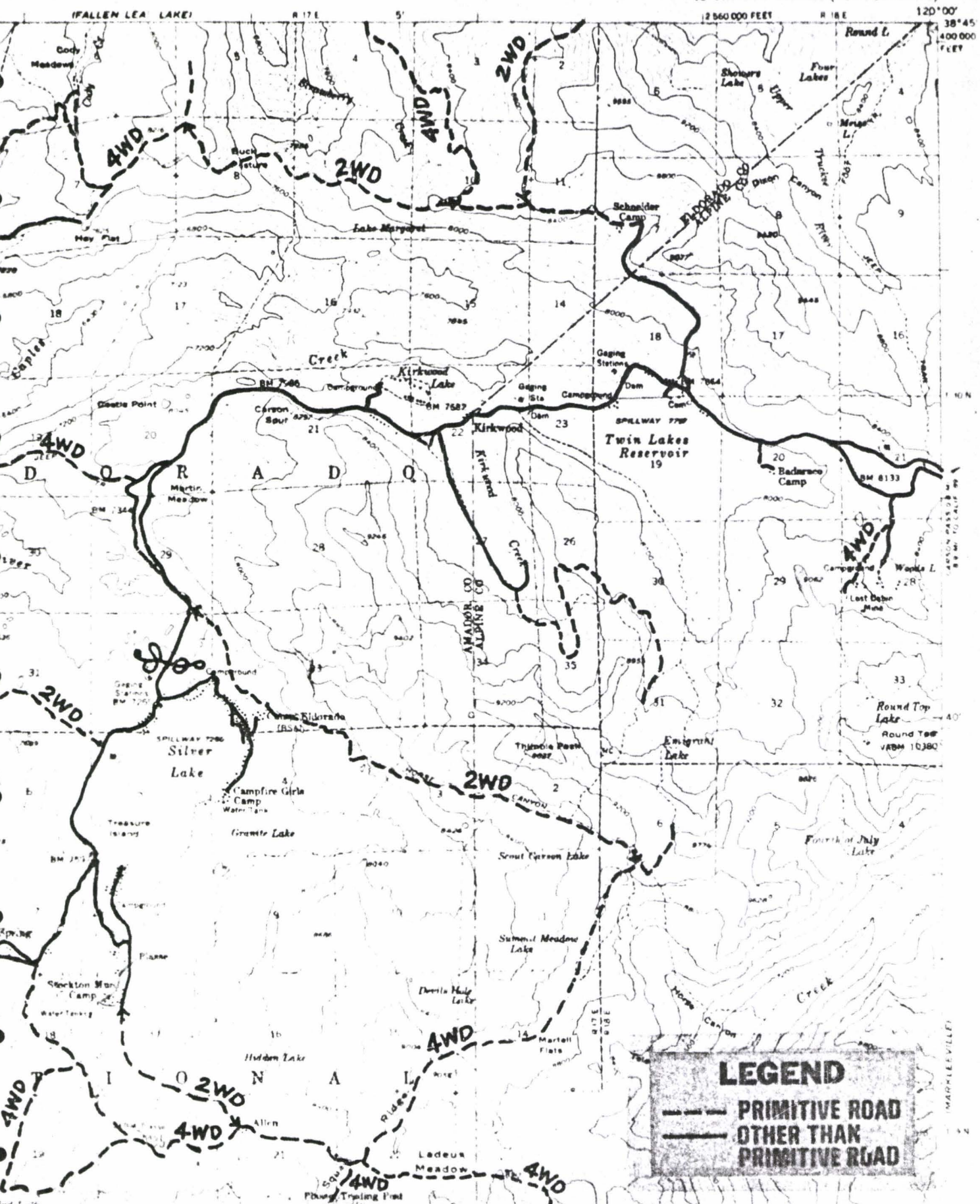
	Primitive	Non-motorized	Semi-Primitive Motorized	Roaded Natural Appearing	Rural	Modern Urban
High	.025	.033	.083	2.5	7.5	None
Low	.002	.008	.008	.093	.930	None

V ANALYSIS

The Forest Service and other recreation oriented organizations and researchers have been looking for a recreation planning principle that would portray the visitor's total recreation experience; be a viable tool for measuring land capability and would be a complete system. Previous concepts were primarily inventory related and lacked totality in the visitor behavior area, ease of implementation, applicability, research foundation or objectiveness. Increasing demands and needs for outdoor recreation spurred research and managerial efforts to find a recreation opportunity planning framework that would respond to allocations and management action questions.

The development of the Recreation Opportunity Spectrum recognized the interaction between what people do, the environment and experiences. It defined a land classification system describing conditions ranging from modern developed to primitive undeveloped. ROS has wide application for planners and managers in meeting organizational, legislative and policy directions.

Three apparent limitations, which can be resolved through experience gained in application and additional research, are the resolution of inconsistency, development of capacity coefficients and the results from implementation.



VI DISCUSSION

The integration of recreation opportunity planning, utilizing the recreation opportunity spectrum, into land and resource management planning can be examined by reviewing the attributes listed under the Statement of Purpose on pages 5 and 6.

ROS is a land prioritization for recreation that provides a listing of descriptions for what people do (activity) in a given environment (setting) to produce benefits (experience). This paper focuses on the "setting" by describing the three criteria - physical, social and managerial, - that are used to judge what a parcel of land is capable of providing. A logical and consistent format is established to show how land areas can be uniformly delineated into six measurable settings. During the application of the ROS system, knowledge of local conditions will often modify the more general criteria and allow very refined selection of the proper class in others.

Recently I attended a one day training session held in South San Francisco to inform Forest Service recreation and planning officers about ROS. The January 15, 1980 draft of the recreation opportunity planning guideline was reviewed and its principles applied to delineate various Pacific Southwest region lands. The group of 50 people asked a variety of questions to clarify how this planning framework could be used to more adequately define the capability of National Forest System Lands to meet visitor desires. This exposure to the ROS concept provided the participants with a better method to translate recreation resource potential into a visible evaluation system. It was obvious that it furnished a method whereby the measurement of recreation attributes could be weighed against other resource quantities and qualities to determine trade-offs of management alternatives. The lead planning forest representative explained that an earlier version of ROS

had been used to map the 1,000,000 acre Sierra National Forest in two weeks. Representatives from the California Department of Parks and Recreation and the Historical Conservation Recreation Service attended to determine how they might use the system.

The Bureau of Land Management has already used, on a trial basis, RO and ROS combined with their Recreation Inventory System (RIS) - which is activity oriented. Based on interagency discussion it is apparent that ROS will be used by both B.L.M. and the F.S., which is 87 percent of all federal lands.

As Clark and Stankey state, "ROS offers a way of thinking about recreation opportunities" rather than just activities or areas. It provides a framework for inventory, planning, evaluation and accommodating shifting demands. There is a need to provide a full range of opportunity settings so that managers have a greater ability to respond to technology and socio-economic changes. Two of their examples are growth in off-road recreation vehicles and scarce energy. Some other socio-economic changes managers will be trying to cope with in coming years are physically disabled, age structure change and visitor displacement.

This paper was written to provide a tracking system for the present forest land and resource management recreation planning. It will show the people who revise the forest plan how the original delineation was done and applied. The annotated bibliography can be used to develop the demand process and manual or planning handbook material.

As this framework is applied there will be a need to refine or fine tune the system. There also will be a need to conduct research on visitor preference (how it changes), role of the suppliers, visitor displacement, age-activity relationships and methods of evaluating the range of quality within each of the six classes.

It's my observation, that after a thorough review, the ROG System meets existing legislative, national, regional and forest directions for planning and managing National Forest System Lands. It is readily adaptable by organizations with substantial land and resources and can be used by state or county governments to update their recreation planning system.

Monday
September 17, 1979

Part IV

**Department of
Agriculture**

Forest Service

**National Forest System Land and
Resources Management Planning
(as corrected in the Federal Register
of September 19, 1979)**

- (2) Allowable Sale Quantity
- (3) 5 Year Restocking Requirement
- (4) Cultural Treatments Included in the Forest Plan
- (5) Decreasing Harvest Levels
- (6) Requirements for Even-Aged Management
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PART 219—PLANNING

Subpart A—National Forest System Land and Resource Management Planning

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Authority.—Secs. 8 and 15, 90 Stat. 2949, 2952, 2958 (16 U.S.C. 1604, 1613); and 3 U.S.C. 301.

Subpart A—National Forest System Land and Resource Management Planning

§ 219.1 Purpose.

(a) The regulations in this subpart set forth a process for developing, adopting, and revising land and resource management plans for the National Forest System. The purpose of the planning process is to meet the requirements of the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended (hereafter RPA) including procedures under the National Environmental Policy Act of 1969 (hereafter NEPA) for assessing economic, social, and environmental impacts. These regulations prescribe how land and resource management planning is to be conducted on National Forest System lands. The resulting plans will provide for multiple use and sustained yield of goods and services from the National Forest System.

(b) Plans guide all natural resource management activities and establish management standards and guidelines for the National Forest System. They determine resource management practices, harvesting levels and procedures under the principles of multiple use and sustained yield and the availability and suitability of lands for resource management. All levels of

planning will be based on the following principles:

(1) That the National Forests are ecosystems and their management for goods and services requires an awareness of the interrelationships among plants, animals, soil, water, air, and other environmental factors within such ecosystems. Proposed management will consider these interrelationships:

(2) Consideration of the relative values of all renewable resources, including the relationship of mineral resources to these renewable resources:

(3) Establishment of goals and objectives for the sustained yield of products and services resulting from multiple-use management without impairment of the productivity of the land;

(4) Protection and, where appropriate, improvement of the quality of renewable resources;

(5) Preservation of important historic, cultural and natural aspects of our national heritage;

(6) Protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise their traditional religions;

(7) Provision for the safe use and enjoyment of the forest resources by the public;

(8) Protection of all forest and rangeland resources from depredations by the forest pests, using ecologically compatible means;

(9) Coordination with the land and resource planning efforts of other Federal agencies, State and local governments, Indian tribes, and adjacent private landowners;

(10) A systematic, interdisciplinary approach to ensure coordination and integration of planning activities for multiple-use management;

(11) Early and frequent public participation;

(12) Establishment of quantitative and qualitative standards and guidelines for land and resource planning and management;

(13) Management of National Forest System lands in a manner that is sensitive to economic efficiency; and

(14) Responsiveness to changing conditions in the land and changing social and economic demands of the American people.

§ 219.2 Scope and applicability.

The regulations in this subpart apply to the lands and waters in the National Forest System. Planning requirements for managing special areas, such as wilderness, wild and scenic rivers, national recreation areas, and national trails, will be included in land and resource management planning pursuant to these regulations. Whenever the special area authorities require additional planning, those authorities will control in implementing the planning process under this subpart.

§ 219.3 Definitions.

For purposes of this subpart the following words shall have these meanings:

(a) "Allowable sale quantity": The quantity of timber that may be sold from the area of land covered by the forest plan for a time period specified by the plan. This quantity is usually expressed on an annual basis as the average annual allowable sale quantity.

(b) "Assessment": The Renewable Resource Assessment required by the RPA.

(c) "Base timber harvest schedule": The Timber Harvest Schedule in which the planned sale and harvest for any future decade is equal to or greater than the planned sale and harvest for the preceding decade of the planning period and this planned sale and harvest for any decade is not greater than long-term sustained yield capacity.

(d) "Biological growth potential": The average net growth attainable in a fully stocked natural area of forest land.

(e) "Capability": The potential of an area of land to produce resources, supply goods and services, and allow resource uses under an assumed set of management practices and at a given level of management intensity. Capability depends upon current conditions and site conditions such as climate, slope, landform, soils and geology, as well as the application of management practices, such as silviculture or protection from fire, insects, and disease.

(f) "Corridor": A linear strip of land which has ecological, technical, economic, social, or similar advantages over other areas for the present or future location of transportation or utility rights-of-way within its boundaries.

(g) "Diversity": The distribution and abundance of different plant and animal communities and species within the area covered by a land and resource management plan.

(h) "Economic efficiency analysis": A comparison of the values of resource inputs (costs) required for a possible course of action with the values of

resource outputs (benefits) resulting from such action. In this analysis, incremental market and nonmarket benefits are compared with investment and physical resource inputs.

(i) "Environmental analysis": An analysis of alternative actions and their predictable short- and long-term environmental effects, which include physical, biological, economic, social, and environmental design factors and their interactions. Environmental assessment is the concise public document required by the regulations for implementing the procedural requirements of NEPA, (40 CFR 1508.9).

(j) "Environmental documents": A set of concise documents to include, as applicable, the environmental assessment, environmental impact statement, finding of no significant impact, or notice of intent.

(k) "Even-aged silviculture": The combination of actions that results in the creation of stands in which trees of essentially the same age grow together. Managed even-aged forests are characterized by a distribution of stands of varying ages (and therefore tree sizes) throughout the forest area. Regeneration in a particular stand is obtained during a short period at or near the time that the stand has reached the desired age or size and is harvested. Clearcutting, shelterwood cutting, seed tree cutting, and their many variations are the cutting methods used to harvest the existing stand and regenerate a new one. In even-aged stands, thinning, weeding, cleanings, and other cultural treatments between regeneration cuts are often beneficial. Cutting is normally regulated by scheduling the area of harvest cutting to provide for a forest that contains stands having a planned distribution of age classes.

(l) "Goal": A concise statement of the state or condition that a land and resource management plan is designed to achieve. A goal is usually not quantifiable and may not have a specific date for completion.

(m) "Goods and services": The various outputs produced by forest and rangeland renewable resources. The tangible and intangible values of which are expressed in market and nonmarket terms.

(n) "Guideline": An indication or outline of policy or conduct.

(o) "Integrated pest management": A process in which all aspects of a pest-host system are studied and weighed to provide the resource manager with information for decisionmaking. Integrated pest management is, therefore, a part of forest or resource management. The information provided includes the impact of the unregulated

pest population on various resources values, alternative regulatory tactics and strategies, and benefit/cost estimates for these alternative strategies. Regulatory strategies are based on sound silvicultural practices and ecology of the pest-host system. Strategies consist of a combination of tactics such as stand improvement plus selected use of pesticides. The overriding principle in the choice of strategy is that it is ecologically compatible or acceptable.

(p) "Long-term sustained yield capacity": The highest uniform wood yield from lands being managed for timber production that may be sustained under a specified intensity of management consistent with multiple-use objectives.

(q) "Management concern": An issue or problem requiring resolution, or condition constraining management practices identified by the interdisciplinary team.

(r) "Management direction": A statement of multiple-use and other goals and objectives, the management prescriptions, and the associated standards and guidelines for attaining them.

(s) "Management intensity": The relative cost of a possible management direction and/or management practice.

(t) "Management practice": A specific action, measure, or treatment.

(u) "Management prescription": Management practices selected and scheduled for application on a specific area to attain multiple-use and other goals and objectives.

(v) "Multiple use": "The management of all the various renewable surface resources of the national forests so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; that some lands will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output." (16 U.S.C. 531(a))

(w) "Objective": A specific statement of measurable results to be achieved within a stated time period. Objectives reflect alternative mixes of all outputs or

achievements which can be attained at a given budget level. Objectives may be expressed as a range of outputs.

(x) "Planning area": The area covered by a Regional or Forest Plan.

(y) "Policy": A guiding principle upon which is based a specific decision or set of decisions.

(z) "Program": The Renewable Resource Program required by the RPA.

(aa) "Public issue": A subject or question of widespread public interest relating to management of National Forest System lands identified through public participation.

(bb) "Public participation activities": Meetings, conferences, seminars, workshops, tours, written comments, response to survey questionnaires, and similar activities designed and held to obtain comments from the general public and specific publics about National Forest System land management planning.

(cc) "Real dollar value": A value from which the effect of change in the purchasing power of the dollar has been removed.

(dd) "Responsible official": The Forest Service employee who has been delegated the authority to carry out a specific planning action.

(ee) "Silvicultural system": A combination of interrelated actions whereby forests are tended, harvested, and replaced. The combination of management practices used to manipulate the vegetation results in forests of distinctive form and character, and this determines the combination of multiple resource benefits that can be obtained. Systems are classified as even-aged and uneven-aged.

(ff) "Standard": A principle requiring a specific level of attainment, a rule to measure against.

(gg) "Suitability": The appropriateness of applying certain resource management practices to a particular area of land, as determined by an analysis of the economic and environmental consequences and the alternative uses foregone. A unit of land may be suitable for a variety of individual or combined management practices.

(hh) "Sustained-yield of the several products and services": "The achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the national forest without impairment of the productivity of the land." (16 U.S.C. 531(b))

(ii) "Timber harvest schedule": The quantity of timber planned for sale and harvest, by time period, from the area of land covered by the forest plan. The first period, usually a decade, of the selected

harvest schedule provides the allowable sale quantity. Future periods are shown to establish that sustained yield will be achieved and maintained.

(jj) "Timber production": The growing, tending, harvesting and regeneration of regulated crops of industrial wood. Industrial wood includes logs, bolts or other round sections cut from trees for industrial or consumer use, except fuelwood.

(kk) "Uneven-aged silviculture": The combination of actions that result in the creation of forests in which trees of several or many ages may grow together. Managed uneven-aged forests may take several forms depending upon the particular cutting methods used. In some cases, the forest is essentially similar throughout, with individual trees of many ages and sizes growing in close association. In other cases, small groups of trees of similar age may be intermingled with similar groups of different ages; although the groups are even aged, they are not recorded separately. Finally, an uneven-aged forest may contain two or three distinct age classes on the same area, creating a storied forest. Under uneven-aged silviculture, regeneration is obtained several or many times during the period required to grow an individual tree to maturity. Single-tree selection cutting, group selection cutting, and other forms of partial cutting are used to harvest trees, obtain regeneration, and provide appropriate intermediate culture. Cutting is usually regulated by specifying the number or proportion of trees of particular sizes to retain within each area, thereby maintaining a planned distribution of size classes. Scheduling by area harvest is often used as well.

§ 219.4 Planning levels.

(a) The planning process requires a continuous flow of information and management direction among the three Forest Service administrative levels: national, regional, and designated forest planning area. Management direction will be based principally upon locally derived information about production capabilities; reflect conditions and circumstances observed at all levels; and become increasingly specific as planning progresses from the national to regional level, and from the regional to designated forest planning area. In this structure, regional planning is the principal process for conveying management direction from the national level to designated forest planning areas and for conveying information from such areas to the national level.

(b) Planning levels and relationships are set forth in paragraphs (b) (1) through (3) of this section.

(1) *National.* The Chief, Forest

Service, will develop the Assessment which will include an analysis of present and anticipated uses, demand for, and supply of the renewable resources of forest, range, and other associated lands with consideration, and an emphasis on, pertinent supply and demand and price relationship trends; an inventory of present and potential renewable resources and an evaluation of opportunities for improving their yield of tangible and intangible goods and services, together with estimates of investment costs and direct and indirect returns to the Federal Government; a description of Forest Service programs and responsibilities, research, cooperative programs, and management of the National Forest System; and analysis of important policy issues and consideration of laws, regulations, and other factors expected to influence and affect significantly the use, ownership, and management of forest, range, and other associated lands. This assessment will be based on the future capabilities for each forest and regional planning area. Based on the Assessment which will include information generated during the regional and forest planning process, the Chief will develop alternative Program in formulating those alternatives the costs of supply and the relative values of both market and nonmarket output will be considered. The alternatives will include national renewable resource goals, quantified objectives, resource outputs and represent a range of expenditure levels sufficient to demonstrate full opportunities for management. A portion of each national goal and objective, expressed in the selected Program as a range of output, will be assigned to each region and be incorporated into each regional plan. The objectives assigned to each region will be based on local supply capabilities and market conditions. Economic efficiency and potential environmental effects will be considered in these assignments.

(2) *Regional.* Each regional forester will develop a regional plan in accordance with the procedures, standards, and guidelines specified in this subpart. The required planning process is established in § 219.5. Procedural requirements for regional plans are established in §§ 219.9 and 219.10, and resource management standards and guidelines are set forth in § 219.13. The regional planning process will respond to and incorporate the Program direction established by the Chief, Forest Service, under paragraph (b)(1) of this section. Regional objectives will be assigned to designated forest planning areas. These assignments will be based upon: supply capabilities,

socio-economic assessments, potential environmental effects, economic efficiency criteria, community stability objectives, and resource management standards and guidelines which have been established by the planning process. The regional forester may request adjustment of assigned regional objectives prior to their incorporation into the plan. Any adjustment will require the approval of the Chief, Forest Service.

(3) *Forest.* Forest plans will be developed for all lands in the National Forest System in accordance with the procedures, standards, and guidelines specified in this subpart. The planning process is established in § 219.5, and procedures are set forth in §§ 219.11 and 219.12. Resource management standards and guidelines are established in § 219.13. One forest plan may be prepared for all lands for which a forest supervisor has responsibility, or separate forest plans may be prepared for each national forest, or combination of national forests, within the jurisdiction of a single forest supervisor. These forest plans will constitute the land and resource management plans developed in accordance with §§ 6 and 13 of the RPA, as amended, and will include all management planning for resources. Forest plans will address the goals and objectives established by the regional plan. The objectives assigned to each forest will be evaluated in order to assure that they are compatible with local supply and demand, economic efficiency, community stability, and potential environmental effects. Based upon this evaluation, the forest supervisor may request adjustment of assigned objectives prior to their incorporation into the forest plan. Any such adjustment requires the approval of the regional forester.

§ 219.5 Regional and Forest Planning Process.

(a) *General planning approach.* The NEPA environmental analysis process will be included in the process for development of a regional or forest plan. Except where the planning process requires additional action, a single process will be used to meet the planning requirements and the NEPA process. The planning process adapts to changing conditions by identifying public issues, management concerns, and use and development opportunities. It consists of a systematic set of interrelated actions which include at least those set forth in paragraphs (b) through (k) of this section that lead to management direction. Planning actions, in addition to those in this section may be necessary in particular situations. Some actions may occur simultaneously, and it may be necessary to repeat an

action as additional information becomes available.

(b) *Identification of issues, concerns, and opportunities.* The interdisciplinary team will identify and evaluate public issues, management concerns, and resource use and development opportunities, including those identified through public participation activities and coordination with other Federal agencies, State and local governments, and Indian tribes throughout the planning process. All public issues and management concerns are investigated and evaluated in order of their apparent importance. The responsible official will determine the major public issues, management concerns, and use and development opportunities to be addressed in the planning process.

(c) *Planning criteria.* Criteria will be prepared to guide the planning process and management direction. Process criteria may apply to collection and use of inventory data and information, analysis of the management situation, and the design and formulation of alternatives. Decision criteria will be developed and used to evaluate alternatives and select one alternative to serve as the proposed plan. All criteria, including any revisions, will be developed by the interdisciplinary team and approved by the responsible official. Generally, criteria will be based on:

- (1) Laws, executive orders, regulations, and Forest Service Manual policy;
- (2) Goals and objectives in the Program and regional plans;
- (3) Recommendations and assumptions developed from public issues, management concerns, and resource use and development opportunities;
- (4) The plans and programs of other Federal agencies, State and local governments and Indian tribes;
- (5) Ecological, technical and economic factors;
- (6) Guidelines for economic analysis practices, including standards for benefits and costs, and the discount rate of interest will be established by the Chief, Forest Service, and become effective within one year after final publication of these planning rules in the Federal Register; and
- (7) The resource management standards and guidelines in § 219.13.

(d) *Inventory data and information collection.* Each responsible official will obtain and keep current inventory data appropriate for planning and managing the resources under his or her administrative responsibility, and will assure that the interdisciplinary team has access to the best available data, which may require that special inventories or studies be prepared. The

interdisciplinary team will collect, assemble, and use data, maps, graphic material, and explanatory aids, of a kind, character, and quality, and to the detail appropriate for the management decisions to be made. Existing data will be used in planning unless such data is inadequate. Data and information needs may vary as planning problems develop from identification of public issues, management concerns, and resource use and development opportunities. Acquisitions of new data and information will be scheduled and planned as needed. Methods used to gather data will be consistent with those used to monitor consequences of activities resulting from planning and management. Data will be stored for ready retrieval and comparison and periodically will be evaluated for accuracy and effectiveness. Common data definitions and standards to assure uniformity of information between all planning levels will be established by the Chief, Forest Service. As information is recorded using common data definitions and standards, it will be applied in any subsequent planning process. Information developed from common data definitions and standards will be used in the preparation of the 1980, and subsequent Assessments and Programs.

(e) *Analysis of the management situation.* The analysis of the management situation is a determination of the ability of the planning area covered by the Regional or Forest Plan to supply goods and services in response to society's demand for those goods and services. The analysis will display the capability to supply outputs and uses, and projected demands for the outputs or uses over time. It will identify any special conditions or situations which involve hazards to the resources of the planning area and their relationship to proposed and possible actions being considered. The analysis will determine:

- (1) Ranges of various goods, services and uses that are feasible under existing conditions at various levels of management intensity;
- (2) Projections of demand, using best available techniques, with both price and non-price information which, in conjunction with supply cost information, will be used to evaluate the level of goods and services that maximizes net public benefits to the extent possible; demand will be assessed as a price-quantity relationship;
- (3) Potential to resolve public issues and management concerns;
- (4) Technical, economic, and environmental feasibility of providing the levels of goods, services, and uses

resulting from assigned goals and objectives; and

(5) The need, as a result of this analysis, to establish or change management direction.

(f) *Formulation of alternatives.* A reasonable range of alternatives as provided for in paragraphs (1) and (2) of this paragraph, will be formulated by the interdisciplinary team to provide different ways to address and respond to the major public issues, management concerns, and resource opportunities identified during this planning process. Alternatives will be described in draft and final environmental impact statements.

(1) Alternatives will reflect a range of resource outputs and expenditure levels. In formulating these alternatives, the following criteria will be met:

(i) Each alternative will be capable of being achieved;

(ii) A no-action alternative will be formulated, that is the most likely condition expected to exist in the future if current management direction would continue unchanged;

(iii) Each alternative will provide for the orderly elimination of backlogs of needed treatment for the restoration of renewable resources as necessary to achieve the multiple-use objectives of that alternative.

(iv) Each identified major public issue and management concern will be addressed in one or more alternatives; and

(v) Each alternative will represent to the extent practicable the most cost efficient combination of management practices examined that can meet the objectives established in the alternative;

(2) Each alternative will state at least:

(i) The condition and uses that will result from long-term application of the alternative.

(ii) The goods and services to be produced, and the timing and flow of these resource outputs;

(iii) Resource management standards and guidelines; and

(iv) The purposes of the management direction proposed.

(g) *Estimated effects of alternatives.* The interdisciplinary team will estimate and display the physical, biological, economic, and social effects of implementing each alternative including how the plan responds to the range of goals and objectives provided to it from the RPA Program. These effects will include at least the following:

(1) The expected outputs for the planning time horizon for appropriate market goods and services, as well as non-market values, such as pollution and enhancement of soil, water and air,

and preservation of aesthetic and cultural resource values;

(2) The relationship between local, short-term uses of the renewable resources and the maintenance and enhancement of long-term productivity;

(3) The adverse environmental effects, which cannot be avoided;

(4) Resource commitments that are irreversible and irretrievable;

(5) Effects on minority groups and civil rights;

(6) Effects on prime farmlands, wetlands and flood plains;

(7) The relationship of expected outputs to the forest goals given in the current regional plan;

(8) The energy requirements and consideration of potential effects of various alternatives; and

(9) Direct and indirect benefits and costs, estimated in accordance with paragraph (c)(9) of this section, analyzed in sufficient detail to:

(i) Determine the expected real-dollar investment, administrative and operating costs of the plan;

(ii) Estimate the real-dollar value of all outputs attributable to each plan alternative to the extent that dollar values can be assigned to nonmarket goods and services using physical outputs or relative indices of value when such values may not be reasonably assigned and;

(iii) Evaluate the economic effects of alternatives, including the distribution of goods and services, the payment of taxes and charges, receipt shares, payments to local government, and income and employment in affected communities.

(h) *Evaluation of alternatives.* The interdisciplinary team will evaluate the significant physical, biological, social, economic and environmental design effects of each management alternative according to the planning decision criteria. The evaluation will include a comparative analysis of the management alternatives and will compare economic efficiency and distributional aspects, outputs of goods and services, and protection and enhancement of environmental resources. The responsible official will review the interdisciplinary team's evaluation and will recommend a preferred alternative or alternatives to be identified in the draft environmental impact statement.

(i) *Selection of alternative.* After publication of the draft environmental impact statement, the interdisciplinary team will evaluate public comments and, as necessary, revise the appropriate alternative. The responsible official will recommend a selected alternative for the final environmental impact statement using the decision

criteria developed pursuant to paragraph (c) of this section. The official will document the selection with a description of the benefits, relative to other alternatives as described in paragraph (h) of this section.

(j) *Plan implementation.* During the implementation of each plan the following requirements, as a minimum, will be met:

(1) The responsible official will assure that annual program proposals and implemented projects are in compliance with the plan;

(2) Program budget allocations meet the objectives and are consistent with all applicable standards and guidelines specified in the plan; and

(3) Plan implementation is in compliance with §§ 219.9(d) and 219.11(d).

(k) *Monitoring and evaluation.* At intervals established in the plan, management practices will be evaluated on a sample basis to determine how well objectives have been met, and how closely management standards and guidelines have been applied. The results of monitoring and evaluation may be used to analyze the management situation during revision of the plan as provided in paragraphs (k) (1), (2) and (3) of this section.

(1) The plan will describe the following monitoring activities:

(i) The actions, effects, or resources to be measured, and the frequency of measurements;

(ii) Expected precision and reliability of the monitoring process; and

(iii) The time when evaluation will be reported.

(2) Evaluation reports will contain for each monitored management practice at least a quantitative estimate of performance comparing outputs and services and their costs with those projected by the plan and documentation of evaluated measure effects.

(3) Based upon the evaluation reports, the responsible official will make changes in management direction, or revise or amend the plan as necessary to meet the goals and objectives.

§ 219.6 Interdisciplinary Approach.

(a) A team representing several disciplines will be used at each level of planning to insure coordinated planning which addresses outdoor recreation, range, timber, watershed, wildlife and fish, and wilderness opportunities. The team is to coordinate and integrate planning activities consistent with the principles of the Multiple-Use Sustained-Yield Act of 1960 and § 219.1 of this subpart. Through interactions among its members, the team will integrate knowledge of the physical,

biological, economic and social sciences, and environmental design arts in the planning process. Team functions include, but are not limited to:

(1) Assessing the problems and resource use and development opportunities associated with providing of goods and services;

(2) Obtaining the public's views about possible decisions;

(3) Coordinating planning activities within the Forest Service and with local, State and other Federal agencies;

(4) Developing the land and resource management plan and associated environmental impact statement pursuant to the planning process;

(5) Giving the responsible official an integrated perspective on land and resource management planning; and

(6) Establishing monitoring and evaluation standards and requirements for planning and management activities.

(b) The team will be composed of Forest Service personnel who collectively represent diverse specialized areas of professional and technical knowledge about natural resource management applicable to the area being planned. The team will consider problems collectively, rather than separating them along disciplinary lines. The team is encouraged to consult persons other than Forest Service employees when required specialized knowledge does not exist within the team itself.

(c) The responsible official, in appointing team members, will determine and consider the qualifications of each team member on the basis of the complexity of the issues and concerns to be resolved through the plan. Each team member will, as a minimum, either have successfully completed a course of study in a college or university leading to a bachelor's or higher degree in one or more specialized areas of assignment or have recognized expertise and experience in professional investigative, scientific, or other responsible work in specialties which members represent. In addition to technical knowledge in one or more resource specialties, members should possess other attributes which enhance the interdisciplinary process that, as a minimum, should include:

(1) An ability to solve complex problems;

(2) Skills in communication and group interaction;

(3) Basic understanding of land and natural resource planning concepts, processes, and analysis techniques; and

(4) The ability to conceptualize planning problems and feasible solutions.

(a) The responsible official will appoint a leader of the interdisciplinary team. Team leadership should be assigned to individuals possessing both a working knowledge of the planning process and the ability to communicate effectively with team members. The team leader will coordinate the specialists, focusing their attention on team goals.

§ 219.7 Public Participation.

(a) Because the land and resource management planning process determines how the lands of the National Forest System are to be managed, the public is encouraged to participate throughout the planning process. The intent of public participation is to:

(1) Ensure that the Forest Service understands the needs and concerns of the public;

(2) Inform the public of Forest Service land and resource planning activities;

(3) Provide the public with an understanding of Forest Service programs and proposed actions;

(4) Broaden the information base upon which land and resource management planning decisions are made; and

(5) Demonstrate that public issues and inputs are considered and evaluated in reaching planning decisions.

(b) Public participation in the preparation of draft environmental impact statements for planning begins with the publication of a notice of intent in the Federal Register. After this publication, all public participation for land and resource management planning will be coordinated with that required by the NEPA and its implementing regulations.

(c) Public participation, as deemed appropriate by the responsible official, will be used early and often throughout the development, revision, and significant amendment of plans. Public participation activities will begin with a notice to the news media, which includes as appropriate the following information:

(1) The description of the proposed planning action;

(2) The description and map of the geographic area affected;

(3) The issues expected to be discussed;

(4) The kind, extent, and method(s) of public participation to be used;

(5) The times, dates, and locations scheduled or anticipated, for public meetings;

(6) The name, title, address, and telephone number of the Forest Service official who may be contacted for further information; and

(7) The location and availability of documents relevant to the planning process.

(d) Public participation activities should be appropriate to the area and people involved. Means of notification should be appropriate to the level of planning. Public participation activities may include, but are not limited to, requests for written comments, meetings, conferences, seminars, workshops, tours, and similar events designed to foster public review and comment. To ensure effective public participation, the objectives of participation activities will be defined beforehand by the interdisciplinary team. The Forest Service will state the objectives of each participation activity to assure that the public understands what type of information is needed and how this information relates to the planning process. The responsible official and interdisciplinary teams will consult and be guided by Forest Service Handbook 1626.

(e) Public comments will be analyzed individually, and by type of group and organization to determine common areas of concern and geographic distribution. The results of this analysis will be evaluated to determine the variety and intensity of viewpoints about ongoing and proposed planning, and management standards and guidelines. Conclusions about comments will be used to the extent practicable in decisions that are made.

(f) The primary purpose of public participation is to broaden the information base upon which planning decisions are made. Public participation activities also will help in monitoring and evaluation of implemented plans. Suitable public participation formats, requirements, and activities will be determined by the responsible official.

(g) All scheduled public participation activities will be documented by a summary of the principal issues discussed, comments made, and a register of participants.

(h) At least 30 days' public notice will be given for public participation activities associated with the development of national or regional plans. At least 15 days' public notice will be given for activities associated with forest plans. Any notice requesting written comments on national and regional planning will allow at least 90 calendar days for responses. A similar request about forest planning will allow at least 30 calendar days for responses.

(i) A list of individuals and groups known to be interested in or affected by the plan will be maintained. They will be notified of public participation activities.

(j) The responsible official, or his representative, will attend or provide for adequate representation at public participation activities.

(k) Copies of approved plans will be available for public review, as follows:

(1) The Assessment and the Program will be available at national headquarters, each regional office, each forest supervisor's office, and each district ranger's office;

(2) The regional plan will be available at national headquarters, that regional office and regional offices of contiguous regions, each forest supervisor's office of forests within and contiguous to that region, and each district ranger's office in that region;

(3) The forest plan will be available at the regional office for that forest, that forest supervisor's office and forest supervisors' offices contiguous to that forest, each district ranger's office in that forest, those district rangers' offices in other forests that are contiguous to that forest, and at least one additional location determined by the forest supervisor, which will offer convenient access to the public; and

(4) The above plans may be made available at other locations convenient to the public.

(l) Documents considered in the development of plans will be available at the office where the plans were developed.

(m) Upon issuance of a draft environmental impact statement on a plan, revision, or significant amendment, and concurrent with the public participation activities of this section, the public will have a 3-month period to review the statement for the proposed plan, revision, or significant amendment. During that time, additional public participation activities will take place to review the actions proposed in the draft environmental impact statement.

(n) Fees for reproducing requested documents will be charged according to the Secretary's Fee Schedule (7 CFR Part I, Subpart A, Appendix A).

§ 219.8 Coordination of Public Planning Efforts.

(a) Efficient management of the resources of the National Forest System results from planning that is coordinated among all levels of government, including other Federal agencies, State and local governments, and Indian tribes. Such coordination ensures that government objectives, policies, and programs for resource management are compatible to the extent possible. Therefore, the Forest Service will coordinate its national, regional, and forest planning with the equivalent and related planning efforts of other Federal

agencies, State and local governments, and Indian tribes.

(b) The responsible official, through the interdisciplinary team, will coordinate Forest Service planning with land and resource management planning of other affected government entities and Indian tribes to ensure that planning includes:

(1) Recognition of the objectives of other Federal, State and local governments, and owners of intermingled and adjacent private lands, as expressed in their plans and policies;

(2) An assessment of the interrelated impacts of these plans and policies;

(3) A determination of how each Forest Service plan should deal with the impacts identified; and

(4) Where conflicts are identified, consideration of alternatives for their resolution.

(c) The responsible official will give notice of the preparation, revision, or significant amendment of a land and resource management plan, along with a general schedule of anticipated planning actions, to the State Clearinghouse (OMB Circular A-95) for circulation among State agencies. The same notice will be mailed to all Tribal or Alaska Native leaders whose tribal lands may be impacted, and to the heads of county boards for the counties that are involved. These notices will be issued simultaneously with the public notice required in § 219.7(b).

(d) To facilitate coordination with State governments, regional foresters will seek agreements with Governors or their designated representatives on procedural measures such as exchanging information, providing advice and participation, and time frames for receiving State government input and review. If an agreement is not reached, the regional forester will provide an opportunity for Governor and State agency review, advice, and suggestion on guidance that the regional forester believes could affect or influence State government programs.

(e) The responsible official in developing land and resource plans, will meet with the designated State official (or designee), representatives of other Federal agencies and Indian tribal governments at the beginning of the planning process to develop procedures for coordination. As a minimum, such conferences will also be held after public issues and management concerns have been identified and prior to recommending the selected alternative. Such conferences may be held in conjunction with other public participation activities, provided that the opportunity for government officials

to participate in the planning process is not thereby reduced.

(f) The responsible official will review the planning and land use policies of other Federal agencies, State and local governments and Indian tribes. The intensity of the review will be appropriate to the planning level and requirements of the envisioned plan. This review will include, but not be limited to, plans affecting renewable natural resources, minerals, community and economic development, land use, transportation, water and air pollution control, cultural resources, and energy. The planning records will document this review.

(g) The responsible official, in the development of forest plans and to the extent feasible, will notify the owners of lands that are intermingled with, or dependent for access upon, national forest lands. Planning activities should then be coordinated to the extent feasible with these owners. The results of this coordination will be included in the plan as part of the review required in paragraph (f) of this section.

(h) The responsible official, in developing the forest plan, will seek input from other Federal, State and local governments and universities, to help resolve management concerns in the planning process and to identify areas where additional research is needed. This input should be included in the discussion of the research needs of the designated forest planning area.

(i) A program of monitoring and evaluation will be conducted that includes consideration of the effects of national forest management on land, resources, and communities adjacent to or near the national forest being planned and the effects upon national forest management of activities on nearby lands managed by other Federal or government agencies or under the jurisdiction of local governments.

§ 219.9 Regional Planning Procedure.

(a) *Regional plan.* Regional planning will provide national forests (forest-planning areas) with goals and objectives, regional issue resolution, and program coordination for National Forest System, State and Private Forestry, and Research. A plan will be developed for each administratively designated region in the National Forest System. The preparation of a regional plan, revision, or significant amendment will comply with the requirements of the planning process established in §§ 219.5 and 219.10 and this section.

(b) *Responsibilities.* The Chief, Forest Service, will establish agency-wide policy for regional planning and approve all regional plans, revisions, or

significant amendments. The regional forester will be responsible for the preparation of the regional plan, and revisions or significant amendments to the regional plan. The regional interdisciplinary team will develop a regional plan using the process established in § 219.5 which shall include the steps in paragraphs (b) (1) and (2) of this section.

(1) A draft environmental impact statement will be prepared, describing the proposed plan, revision, or significant amendment. A notice of intent to prepare this statement will be issued in the Federal Register. The draft statement will identify a preferred alternative. Beginning at the time of notification of availability of the draft environmental impact statement in the Federal Register, the statement will be available for public comment for at least 90 days at convenient locations in the vicinity of the lands covered by the plan, revision, or significant amendment. During this period, and in accordance with the provisions in § 219.7, the responsible official will publicize and hold public participation activities as deemed appropriate for adequate public input.

(2) A final environmental impact statement will be prepared, and after the regional forester has reviewed and concurred in the statement, the regional forester will recommend to the Chief, Forest Service that it be filed with the Environmental Protection Agency. At least 30 days are required between the date of notice of filing of the final environmental impact statement and the decision to implement actions specified in the plan, revision, or significant amendment. The plan, revision, or significant amendment will be based on the selected alternative.

(c) Plan approval. The Chief, Forest Service, will review the proposed plan, revision, or significant amendment and the final environmental impact statement and take either of the actions in paragraphs (c)(1) and (2) of this section.

(1) Approve the plan. If approved, the plan will not become effective until at least 30 days after publication of the notice of the filing of the final environmental impact statement. The Chief, Forest Service, will attach to the final environmental impact statement a concise public record of decision which documents the approval. The record of decision will accomplish the following:

- (i) State the decision;
- (ii) Identify all alternatives considered in making the decision on the plan, revision, or significant amendment;
- (iii) Specify the selected alternative;

(iv) Identify and discuss all factors considered by the Forest Service in making the planning decision, including how such factors entered into its decision; and

(v) State whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adapted, and, if not, why they were not.

(2) Disapprove the plan, and return it to the regional forester with a written statement of the reasons for disapproval. The Chief, Forest Service may also specify a course of action to be undertaken by the regional forester in order to remedy the deficiencies, errors, or omissions of the plan or environmental impact statement.

(3)(i) The approval or disapproval of a regional plan, revision, or significant amendment, or reconsideration under paragraph (ii) of this paragraph, is not subject to review under § 211.19 of this chapter or any other administrative appeal procedure. This exclusion does not apply to appeals or decisions to be taken under the regional plan on the grounds of nonconformity or to appeals of decisions taken under the plan which are appealable grievances under § 211.19 of this chapter.

(ii) Any person may request the Chief, Forest Service, to reconsider the decision to approve or disapprove a regional plan, revision, or significant amendment. A written request for reconsideration must be filed within 45 days of the time of the Chief's decision and must be accompanied by a written statement giving the reasons why the decision to approve or disapprove is erroneous and any factual information necessary to support these reasons. A written decision on the request for reconsideration will be made within 30 days of the receipt of the request and will state the reasons for the decision reached on the request.

(iii) Any person, either at the time of requesting reconsideration or prior to filing such a request, may request the Chief, Forest Service, to stay the decision approving or disapproving the regional plan, revision, or significant amendment providing a showing is made that, without a stay, implementation will result in irreversible harm or will have an immediate direct and adverse effect on the requesting party.

(d) *Conformity.* The regional forester will manage the national forest lands under his or her jurisdiction in accordance with the regional plan. The regional forester or area director will assure that all State and Private Forestry programs planned with the States or other governmental agencies

are coordinated with the regional plan. The research station director will use the regional plan to help identify research needs for National Forest System lands. Differences between annual budget proposals and actual funding allocations may require the regional forester to make changes in scheduling. When each regional plan is approved, each forest plan in that region will be revised or amended to bring it into conformity as soon as practicable. When each regional plan is revised or amended the affected forest plans will be revised or amended to conform as soon as practicable.

(e) *Amendment.* The regional forester may amend the regional plan through an environmental analysis which will be used to determine the significance of proposed amendments. If the analysis indicates the preparation of an environmental impact statement is necessary, the amending process will follow the same procedure as used in the preparation of the plan. If the amendment is determined not to be significant, it may be implemented by the responsible official after public notice. The regional plan will be reviewed for possible amendment in conjunction with the development of the Assessment and Program or whenever the funded and implemented program deviates significantly from the 5-year levels specified in the regional plan.

(f) *Revision.* The regional forester will determine by an analysis of the management situation whether a revision is necessary because conditions or the demands of the public in the region have changed significantly. Revision will not become effective until considered and approved in accordance with the requirements for the development and approval of a regional plan.

(g) *Planning records.* The regional forester and the interdisciplinary team will develop and maintain a system that records decisions and activities that result from the process of developing a regional plan, revision or significant amendment. This system will contain all planning records including a work plan to guide and manage planning, the procedures which were used in completing each planning action and the results of those actions. These records document the accomplishment of legal and administrative planning requirements. They include, at least the draft environmental impact statement, final environmental impact statement, regional plan, and record of decision. The adequacy of the record system will be approved by the regional forester.

(h) *Regional plan content.* The following general format and content

outline is required for all regional plans. In addition, the regional forester may specify formats and require further content within the following outline appropriate to the planning needs of that region:

(1) A brief description of the major public issues and management concerns which are pertinent to the region, indicating the disposition of each issue or concern;

(2) A summary of the analysis of the regional management situation, including a brief description of the existing management situation, demand and supply projections for resource commodities and services, production potentials, and resource use and development opportunities;

(3) Description of management direction including programs, goals and objectives;

(4) A distribution of regional objectives to each of the forest planning areas, and additional objectives added to reflect specific regional needs;

(5) Management standards and guidelines and those specific standards and guidelines listed in § 219.10(d);

(6) Description of the monitoring and evaluation necessary to determine and report achievements and effects;

(7) Appropriate references to information used in development of the regional plan; and

(8) The names of interdisciplinary planning team members, together with a summary of each member's qualifications and areas of expertise;

(i) *Monitoring and evaluation.* Monitoring and evaluation of planned actions and effects will be carried out in compliance with § 219.5(k). Monitoring and evaluation will include, but is not limited to:

(1) Management practices relating to regional or subregional programs;

(2) State and Private Forestry programs carried out in conjunction with states or other governmental agencies;

(3) Economic and social impact on regional publics;

(4) Resource outputs or environmental impacts which relate to areas more widespread than national forests or States;

(5) Research programs which are related to other research activities or ongoing management practices on a regional scale; and

(6) National Forest System programs.

§ 219.10 Regional Planning Actions.

(a) The regional interdisciplinary team, as directed by the regional forester, will follow the process and procedures established in §§ 219.5 through 219.9 in preparing the regional plan, revision, or significant amendment.

The appropriate planning actions of the regional planning process will be guided by at least the criteria provided in paragraphs (b) through (g) of this section. Additional planning criteria may be found in the guidelines for managing specific renewable resources set forth in the Forest Service Manual and Handbooks.

(b) In addition to public issues and management concerns identified through public participation and coordination, each regional plan will address issues and concerns referred from national or forest planning. Some management concerns that should be considered in regional and in forest planning are the needs to:

(1) Provide goods and services efficiently;

(2) Produce timber and wood fiber;

(3) Manage and utilize range resources and improve range grazing;

(4) Manage fire to improve and protect resources;

(5) Protect resources from disease, pests and similar threats;

(6) Enhance water quality and quantity, soil productivity, and restore watershed conditions;

(7) Adjust landownership as needed to support resource management goals;

(8) Provide various recreation options;

(9) Maintain or improve fish and wildlife habitats;

(10) Improve critical and essential habitats of threatened or endangered plant and animal species;

(11) Assess probabilities of mineral exploration and development for immediate and future needs, and consider non-renewable resources in the management of renewable natural resources;

(12) Construct, operate, and maintain transportation facilities;

(13) Identify, protect, and enhance the visual quality;

(14) Require corridors to the extent practicable, to minimize adverse environmental impacts caused by the proliferation of separate rights-of-way;

(15) Discover, manage, protect, and interpret cultural resource values which are qualified or may qualify for inclusion in the National Register of Historic Places;

(16) Identify typical examples of important botanic, aquatic, and geologic types, and protect them through establishment of research natural areas; and

(17) Provide for various wilderness management options.

(c) Consistent with regional and forest resource capabilities, regional plans will implement the goals and objectives of the RPA Program by establishing regional policies and goals, assigning

resource production objectives to each forest area to be covered by a Forest plan, and issuing needed guidelines for resolving the major public issues and management concerns which are identified through public participation and coordination activities. Information developed in regional plans will be made available to the National Level Assessment and Program activity.

(d) Each regional plan will establish standards and guidelines for:

(1) Prescribing according to geographic areas, forest types, or other suitable classifications, appropriate systems of silviculture to be used within the region;

(2) The maximum size, dispersal, and size variation of tree openings created by the application of even-aged management and the state of vegetation that will be reached before a cutover area is no longer considered an opening, using factors enumerated in § 219.13(d);

(3) The biological growth potential to be used in determining the capability of land for timber production as required in § 219.12(b)(1)(ii);

(4) Defining the management intensity and utilization standards to be used in determining harvest levels for the region;

(5) Recommended transportation corridors and associated standards for forest planning, such as standards for corridors, for transmission lines, pipelines, and water canals. The designation of corridors is not to preclude the granting of separate rights-of-way over, upon, under, or through the public lands where the authorized official determines that confinement to a corridor is not appropriate;

(6) Identification of potential uses of available air quality increments (42 U.S.C. 7473(b)) and protection of the portion of the increment needed to implement forest plans; and

(7) Provision of a unit of measure for expressing mean annual increment as required in § 219.12(d)(1)(ii)(C).

(e) Public participation and coordination activities will be adapted to the circumstances of regional planning. Particular efforts will be made to involve regional and national representatives of interest groups. Coordination will stress involvement with appropriate Federal agencies, State and local governments, and Indian tribes. Regional foresters will seek agreements with Governors, or their designated representatives, on procedures for coordination in accordance with § 219.8(d).

(f) Data for regional planning will be based principally on information from forest planning, with other data provided by the States, other Federal

agencies, and private sources. Very little new data will be gathered through land and resource inventories. Data and information standards and guidelines established nationally will be followed in structuring and maintaining required data.

(g) The regional analysis of the management situation will, as appropriate, consider results of each forest's analysis of the management situation for that region.

§ 219.11 Forest Planning Procedure.

(a) *Forest Plan.* The preparation of a forest plan, revision, or significant amendment will comply with the requirements of the planning process established in §§ 219.5 and 219.12 and this section.

(b) *Responsibilities.* The forest supervisor and the interdisciplinary team are responsible for the activities set forth in paragraphs (b) (1) and (2) of this section.

(1) *Forest supervisor.* The forest supervisor has overall responsibility for the preparation and implementation of the forest plan and appoints and supervises the interdisciplinary team.

(2) *Interdisciplinary team.* The team will implement the public participation and coordination activities. The team will continue to function even though membership may change, and will monitor and evaluate planning results and recommended revisions and amendments. The interdisciplinary team will develop a forest plan, revision, or significant amendment using the planning process established in § 219.5, including the steps in paragraphs (b) (2)(i) and (ii) of this section.

(i) A draft environmental impact statement will be prepared, describing the proposed plan, revision, or significant amendment. A notice of intent to prepare this statement will be issued in the Federal Register. The draft statement will identify a preferred alternative. Beginning at the time of the publication of the notice of availability notification in the Federal Register, the statement will be available for public comment for at least 3 months, at convenient locations in the vicinity of the lands covered by the plan, revision, or significant amendment. During this period, and in accordance with the provisions in § 219.7, the responsible official will publicize and hold public participation activities as deemed appropriate for adequate public input.

(ii) A final environmental impact statement will be prepared, and after the forest supervisor has reviewed and concurred in the statement, the forest supervisor will recommend to the regional forester that it be filed with the

Environmental Protection Agency. At least 30 days are required between the date of notice of filing of the final environmental impact statement and the decision to implement actions specified in the plan, revision, or significant amendment. The plan, revision, or significant amendment will be based on the selected alternative.

(c) *Approval process.* The regional forester will review the proposed plan, revision, or significant amendment and the final environmental impact statement and take one of the actions in paragraphs (c)(1) through (3) of this section.

(1) Approve the plan. If approved, the plan will not become effective until at least 30 days after publication of the notice of the filing of the final environmental impact statement. At the time of filing the FEIS with the Environmental Protection Agency, the regional forester will attach to the Final Environmental Impact Statement a concise public record of decision which documents the approval. The record of decision will accomplish the following:

- (i) State the decision;
- (ii) Identify all alternatives considered in making the decision on the plan, revision, or significant amendment;
- (iii) Specify the selected alternative;
- (iv) Identify and discuss relevant factors considered by the Forest Service in making the planning decision, including how such factors entered into its decisions; and
- (v) State whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and, if not, why they were not.

(2) Disapprove the plan which will be returned to the forest supervisor with a written statement of the reasons for disapproval. The regional forester may also specify a course of action to be undertaken by the forest supervisor in order to remedy the deficiencies, errors, or omissions of the plan or Environmental Impact Statement.

(3) Transmit to the Chief, Forest Service, for approval or disapproval, if the selected harvest schedule is not the base timber harvest schedule for the designated forest planning area as required in § 219.12(d)(2).

(4)(i) Persons who participated in the planning process, or who can show good reason why they were unable to participate, and who have an interest which is, or may be adversely affected by a decision to approve or disapprove a forest plan, revision, or significant amendment, may request a review of that decision. Intermediate decisions made during the planning process and prior to the approval or disapproval decision are not reviewable. If the party

requesting review participated in the planning process, administrative review is limited to those issues which the requesting party raised during participation in the planning process. Participation in the planning process means direct and documented involvement with the responsible official or the interdisciplinary team in the planning process described in § 219.5 of this subpart. Except as provided in this paragraph, the provisions and procedures which apply to administrative review under § 211.19 of this chapter apply to the review of decisions approving or disapproving a forest plan, revision, or significant amendment.

(ii) The reviewing officer will determine whether the deficiencies, errors, or omissions, found in the plan, revision, or significant amendment, are of such a nature as to require reconsideration. If reconsideration is necessary, the Chief, Forest Service, will remand the plan, revision, or significant amendment to the Regional Forester with instructions as to how to proceed in the reconsideration.

(iii) Any person, either at the time of filing a request for review, or prior to filing such a request, may request the reviewing officer to stay a decision approving or disapproving the forest plan, revision, or significant amendment, providing a showing is made that, without a stay, implementation will result in irreversible action or irreparable harm or will have an immediate, direct and adverse effect on the requesting party.

(d) *Conformity.* As soon as practicable after approval of the plan, revision, or significant amendment, the forest supervisor will ensure that, subject to valid existing rights, all outstanding and future permits, contracts, cooperative agreements and other instruments for occupancy and use of affected lands are in conformity with the plan. All subsequent administrative activities affecting such lands, including budget proposals, will be in compliance with the plan. The forest supervisor may change proposed scheduling to respond to minor differences between planned annual budgets and appropriated funds. Such scheduled changes will be considered an amendment to the forest plan, but will not require preparation of an environmental impact statement unless the changes significantly alter the relationship between levels of multiple-use goods and services projected under planned budget proposals as compared to those levels projected with actual appropriations. An environmental impact statement will be prepared if the

scheduling changes will result in significant adverse environmental impacts not taken into account in an existing environmental impact statement.

(e) *Amendment.* The responsible official may amend a plan through an environmental analysis or through the procedures established for the preparation and approval of the forest plan. Such an amendment will be deemed significant if the analysis indicates the need to prepare an environmental impact statement. If such a need is indicated, the amending process will follow the same procedure as in the preparation of the plan. If, based on the environmental analysis, the amendment is determined not to be significant, it may be implemented by the forest supervisor following appropriate public notification.

(f) *Revision.* A forest plan will be revised at least every 10 years, or more frequently whenever the forest supervisor determines that conditions or the demands of the public in the area covered by the plan have changed significantly. The interdisciplinary team may, through the monitoring and evaluation process, recommend a revision of the forest plan at any time. Revisions are not effective until considered and approved in accordance with the requirements for the development and approval of a forest plan. The forest supervisor will review the conditions on the land covered by the plan at least every 5 years to determine whether conditions or demands of the public have changed significantly.

(g) *Planning records.* The forest supervisor and interdisciplinary team will develop and maintain a system that records decisions and activities that result from the process of developing a forest plan, revision, or significant amendment. Records will be maintained that support analytical conclusions and alternative plans made by the team and approved by the forest supervisor throughout the planning process. Such supporting records provide the basis for the development of, revision, or significant amendment to the forest plan and associated environmental documents.

(h) *Forest plan content.* The forest plan is the selected alternative described in the Final Environmental Impact Statement. The plan will contain the following:

(1) A brief description of the major public issues and management concerns which are pertinent to the forest, indicating the disposition of each issue or concern;

(2) A summary of the analysis of the management situation, including a brief description of existing management situations, demand and supply conditions for resource commodities and services, production potentials, and use and development opportunities;

(3) Long-range policies, goals, and objectives, and the specific management prescriptions planned; to meet the policies and to achieve the multiple-use goals and objectives;

(4) Proposed vicinity, timing, standards and guidelines for proposed and probable management practices;

(5) Monitoring and evaluation requirements which are pertinent at the forest level;

(6) Appropriate references to information used in development of the forest plan; and

(7) Names of the interdisciplinary planning team members, together with a summary of each member's qualifications and primary responsibilities or contributions to the forest planning effort.

(i) *Monitoring and evaluation.* Monitoring and evaluation of planned actions and effects will be carried out in compliance with § 219.5(k) and paragraphs (i) (1) through (3) of this section. In addition, management practices associated with each of the resources planned will be evaluated with reference to the standards and guidelines contained in the forest plan through monitoring on an appropriate sample basis. Methods used to monitor consequences of activities resulting from planning and management practices will be consistent with those used to gather data and information.

(1) Monitoring requirements in the forest plan will include descriptions of:

(i) Activities, practices and effects that will be measured and the frequency of measurements;

(ii) Expected precision and reliability of the monitoring process; and

(iii) The time at which evaluation reports will be prepared.

(2) An evaluation report will be prepared for management practices monitored and will contain at least the following:

(i) A quantitative estimate of performance comparing outputs and services with those projected by the forest plan;

(ii) Documentation of measured effects, including any change in productivity of the land;

(iii) Recommendations for changes;

(iv) A list of needs for continuing evaluation of management systems and for alternative methods of management; and

(v) Unit costs associated with carrying out the planned activities as compared with unit costs estimated in the forest plan.

(3) Based upon the evaluation reports, the interdisciplinary team will recommend to the forest supervisor such changes in management direction, revisions, or amendments to the forest plan as deemed necessary.

§ 219.12 Forest Planning Actions.

(a) In the preparation of the proposed forest plan, revision, or significant amendment, the interdisciplinary team, as directed by the forest supervisor, will follow the planning process established in §§ 219.5 through 219.8, 219.11, and in this section. The criteria in paragraphs (b) through (m) of this section provide the minimum requirements to be considered if appropriate for the forest being planned. Additional planning criteria may be found in the guidelines for managing specific renewable resources set forth in the Forest Service Manual and Handbooks.

(b) Each forest plan will identify lands available, capable, and suitable for timber production and harvesting during the planning process in accordance with the planning criteria in paragraphs (1) through (4) of this paragraph.

(1) During the analysis of the management situation, data on all National Forest System lands will be reviewed and those lands meeting all of the requirements of paragraphs (b)(1) (i) through (iv) of this section will be tentatively identified as available, capable and suitable for timber production. Those lands that fail to meet any of these requirements will be designated as not suited for timber production.

(i) The land has not been legislatively withdrawn or administratively withdrawn by the Secretary or the Chief, Forest Service, from timber production.

(ii) The biological growth potential for the land is equal to or exceeds the minimum standard for timber production defined in the regional plan.

(iii) Technology is available that will ensure timber production from the land without irreversible resource damage to soils, productivity, or watershed conditions.

(iv) There is reasonable assurance that such lands can be adequately restocked as provided in § 219.10(b)(1).

(2) Lands that have been tentatively identified as available, capable, and suitable for timber production in paragraph (1) above will be further reviewed and assessed prior to formulation of alternatives to determine the costs and benefits for a range of

management intensities for timber production. For the purpose of analysis, the Forest will be stratified into categories of land with similar management costs and returns. The stratification should consider appropriate factors that influence the costs and returns such as physical and biological conditions of the site and transportation. This analysis will compare the direct costs of growing and harvesting trees to the anticipated receipts to the government, including capital expenditures required by timber production, in accordance with § 219.5 and paragraphs (i) through (iii) below and will identify the management intensity for timber production for each category of land, which results in the largest excess of discounted benefits less discounted costs.

(i) Direct benefits are expressed by expected gross receipts to the government. Such receipts will be based upon expected stumpage prices from timber harvest considering future supply and demand situation for timber, timber production goals of the Regional plan, and § 219.5(c)(6).

(ii) Direct costs include the anticipated investments, maintenance, operating, and management and planning costs attributable to timber production activities, including mitigation measures necessitated by the impacts of timber production.

(iii) Economic analysis must consider costs and returns of managing the existing timber inventory in addition to long-term potential yield.

(3) During formulation and evaluation of each alternative as required under § 219.5(f) and (g), combinations of resource management practices will be defined to meet management objectives for the various multiple uses including outdoor recreation, timber, watershed, range, wildlife and fish, and wilderness. The formulation and evaluation will consider the costs and benefits of alternative management intensities for timber production from paragraph (2) in accordance with § 219.5(f)(v). Lands will be tentatively identified as not suited for timber production if:

(i) Based upon a consideration of multiple-use objectives for the alternative, the land is proposed for resource uses that preclude timber production, such as wilderness;

(ii) Other management objectives for the alternative limit timber production activities to the point where silviculture standards and guidelines set forth in § 219.11 cannot be met; or

(iii) The lands are not cost-efficient in meeting Forest objectives including timber production for the alternative

under consideration over the time period of the program.

(4) Selection among alternatives will be done in accordance with § 219.5(i). Lands identified as tentatively not suited in paragraph (b)(3) of this section will be designated as not suited for timber production in the selected alternative.

(c) When vegetation is altered by management, the methods, timing, and intensity of the practices determine the level of benefits that can be obtained from the affected resources. The vegetation management practices chosen for each vegetation type and circumstance will be defined in the forest plan with applicable standards and guidelines and the reasons for the choices. Where more than one vegetation management practice will be used in a vegetation type, the conditions under which each will be used will be based upon thorough reviews of technical and scientific literature and practical experience, with appropriate evaluation of this knowledge for relevance to the specific vegetation and site conditions. On National Forest System land, the vegetation management practice chosen will comply with the management standards and guidelines specified in § 219.13(c).

(d) The selected forest management alternative includes the timber harvest schedule which provides the allowable sale quantity. The harvest schedule of each alternative, including those which depart from base harvest schedules, will be formulated in compliance with § 219.5(c) and the criteria in paragraphs (1) and (2) of this paragraph.

(1) Alternatives will be formulated that include determinations of the quantity of the timber that may be sold during the planning period. These quantity determinations will be based on the principle of sustained yield and will meet the constraints set out in § 219.13. For each management alternative, the determination will include a calculation of the long-term sustained-yield capacity and the base harvest schedule and when appropriate, a calculation of timber harvest alternatives that may depart from the base harvest schedule as provided in paragraphs (i) through (iii) of this paragraph.

(i) For the base harvest schedules the planned sale and harvest for any future decade will be equal to or greater than the planned sale and harvest for the preceding decade of the planning periods provided that the planned harvest is not greater than the long-term sustained-yield capacity consistent with the management objectives of the alternative.

(ii) The determinations of the appropriate long-term sustained-yield capabilities, base harvest schedules, and departure alternatives to the base harvest schedule will be made on the basis of the guidelines which follows:

(A) For the long-term sustained-yield capacities and the base harvest schedules, assume an intensity of management and degree of timber utilization consistent with the goals, assumptions, and standards contained in, or used in the preparation of the current Program and regional plan. For the base harvest schedule, the management and utilization assumptions will reflect the projected changes in practices for the four decades contained in, or used in the preparation of the current Program and regional plan. Beyond the fourth decade, the assumptions will reflect those projected for the fourth decade of the regional plan.

(B) For alternatives with harvest schedules which depart from the corresponding base harvest schedule, assume an appropriate management intensity;

(C) In accordance with the established standards, assure that all even-aged stands scheduled to be harvested during the planning period will generally have reached the culmination of mean annual increment of growth. Mean annual increment will be based on management intensities and utilization standards assumed in paragraphs (ii) (A) and (B) above and expressed as units of measure consistent with the regional plan. Exceptions to these standards are permitted for the use of sound silvicultural practices, such as thinning or other stand improvement measures; for salvage or sanitation harvesting of timber stands which are substantially damaged by fire, windthrow or other catastrophe, or which are in imminent danger from insect or disease attack; or for the removal of particular species of trees after consideration has been given to the multiple uses of the area being planned and after completion of the public participation process applicable to the preparation of a forest plan; and

(D) Each harvest schedule will provide for a forest structure that will enable perpetual timber harvest at the long-term sustained-yield capacity, and multiple-use objectives of the alternative.

(iii) Alternatives with harvest schedules which depart from the principles of paragraph (i) above and will lead to better attaining the overall objectives of multiple-use management will be considered and formulated when any of the following conditions are indicated:

(A) High mortality losses from any cause can be significantly reduced or prevented or forest age-class distribution can be improved, facilitating future sustained yield management;

(B) Implementation of the corresponding base harvest schedule would cause a substantial adverse impact upon a community in the economic area in which the forest is located;

(C) None of the alternatives already considered provides a timber harvest schedule that achieves the goals of the Program as provided in § 219.4(b).

(2) The harvest schedule of the management alternative selected in accordance with § 219.5(i) provides the allowable sale quantity (the quantity of timber that may be sold from the area of land covered by the forest plan) for the plan period. If the selected harvest schedule is not the base timber harvest schedule for the designated forest planning area, the forest plan will be transmitted to the Chief, Forest Service, for approval. The decision of the Chief may be appealed to the Secretary pursuant to the procedures in § 211.19 of this chapter.

(c) Land's reviewed for Wilderness designation under the review and evaluation of roadless areas conducted by the Secretary of Agriculture but not designated as wilderness or designated for further planning and lands whose designation as primitive areas has been terminated will be managed for uses other than wilderness in accordance with this subpart. No such area will be considered for designation as wilderness until a revision of the forest plan under § 219.11(f). When revising the forest plan, roadless areas of public lands within and adjacent to the forest, will be evaluated and considered for recommendation as potential wilderness areas, as provided in paragraphs (e) (1) and (2) of this paragraph.

(1) During analysis of the management situation the following areas will be designated for evaluation:

(i) All previously inventoried wilderness resources not yet designated;

(ii) Areas contiguous to existing wilderness, primitive areas, or administratively proposed wildernesses, regardless of which agency has jurisdiction for the wilderness or proposed wilderness;

(iii) Areas, regardless of size, that are contiguous to roadless and undeveloped areas in other Federal ownership that have identified wilderness potential, and

(iv) Areas designated by Congress for wilderness study. Management proposals published before this date and other legislative proposals pending

which have been endorsed by the administration.

(2) Each area designated for evaluation under paragraph (1) above will be evaluated in terms of current national guidelines or, in their absence, by criteria developed by the interdisciplinary team with public participation. In the latter case, the criteria will include as a minimum:

(i) The values of the area as wilderness;

(ii) The values foregone and effects on management of adjacent lands as a consequence of wilderness designation;

(iii) Feasibility of management as wilderness, in respect to size, non-conforming use, land ownership patterns, and existing contractual agreements or statutory rights;

(iv) Proximity to other designated wilderness, and relative contribution to the National Wilderness Preservation System; and

(v) The anticipated long-term changes in plant and animal species diversity, including the diversity of natural plant and animal communities of the forest planning area and the effects of such changes on the values for which wilderness areas were created.

(f) The forest plan will provide direction for the management of designated wilderness and primitive areas in accordance with the provisions of Part 243. In particular, it will:

(1) Provide for limiting and distributing visitor use of specific portions in accord with periodic estimates of the maximum levels of use that allow natural processes to operate freely and that do not impair the values for which wilderness areas were created; and

(2) Evaluate the extent to which wildfire, insect, and disease control measures may be desirable for protection of either the wilderness or adjacent areas and provide for such measures when appropriate.

(c) Fish and wildlife habitats will be managed to maintain viable populations of all existing native vertebrate species in the planning area and to maintain and improve habitat of management indicator species. To meet this goal, management planning for the fish and wildlife resource will meet the requirements set forth in paragraphs (1) through (7) of this paragraph and be guided by Chapter 2020, Forest Service Manual.

(1) The desired future condition of fish and wildlife, where technically possible, will be stated in terms both of animal population trends and of amount and quality of habitat.

(2) Management for native and non-native vertebrate and/or invertebrate will be

identified for planning, and the reasons for their selection will be given. The species considered will include at least: Endangered and threatened plant and animal species identified on State and Federal lists for the planning area; species with special habitat needs that may be influenced significantly by planned management programs; species commonly hunted, fished, or trapped; and additional plant or animal species selected because their population changes are believed to indicate effects of management activities on other species of a major biological community or on water quality. On the basis of available scientific information, the effects of changes in vegetation type, timber age classes, community composition, rotation age, and year-long suitability of habitat related to mobility of management indicator species will be estimated. Where appropriate, measures to mitigate adverse effects will be prescribed.

(3) Biologists from State fish and wildlife agencies and other Federal agencies will be consulted in order to coordinate planning with State plans for fish and wildlife.

(4) Access and dispersal problems of hunting, fishing, and other visitor uses will be considered.

(5) The effects of pest and fire management on fish and wildlife populations will be considered.

(6) Population trends of the management indicator species will be monitored and relationships to habitat changes determined. This monitoring will be done in cooperation with State fish and wildlife agencies, to the extent practicable.

(7) Critical habitat for threatened and endangered species will be determined, and measures will be prescribed to prevent the destruction or adverse modification of such habitat. Objectives will be determined for threatened and endangered species that will provide for, where possible, their removal from listing as threatened and endangered species through appropriate conservation measures, including the designation of special areas to meet the protection and management needs of such species.

(b) Identify lands suitable for grazing and browsing in accordance with criteria in paragraphs (1) through (3) of this paragraph and as guided by Chapter 2210, Forest Service Manual.

(1) The procedures used will include, but not be limited to, the following:

(i) Range condition and trend studies;

(ii) Records of estimated actual and carrying capacity of domestic livestock, feral animals, and management indicator species of

wildlife, and estimated percentage utilization of key forage species:

(iii) An estimate of the capability of the rangelands to produce suitable food and cover for the management indicator species of wildlife; and

(iv) An estimate of the present and potential supply of forage for sheep, cattle, and feral animals.

(2) In the analysis of management situation, assess the capability of the planning area to produce forage without permanent impairment of the resources, considering the condition of the vegetation, statutory, and administrative withdrawals, characteristics of soil and slope, and accessibility to grazing and browsing animals.

(3) Alternative range management practices will consider:

(i) Grazing management systems;

(ii) Methods of altering successional stages for range management objectives, including vegetation manipulation as described in § 219.13(c);

(iii) Evaluation of pest problems, and availability of integrated pest management systems;

(iv) Possible conflicts or beneficial interactions among domestic, feral, and wild animal populations, and methods of regulating these;

(v) Physical facilities such as fences, water development, and corrals, necessary for efficient management;

(vi) Existing permits, cooperative agreements, and related obligations; and

(vii) Measures to protect, manage, and control wild free ranging horses and burros as provided in Part 222, Subpart B of this chapter.

(4) A broad spectrum of dispersed and developed recreation opportunities in accord with identified needs and demands will be provided. Planning to achieve this will be governed by the goals of the regional plan, the requirements of paragraphs (1) through (8) of this section, and be guided by Chapter 2310, Forest Service Manual.

(1) Forest planning will identify:

(i) The physical and biological characteristics that make land suitable for recreation opportunities;

(ii) The recreational preferences of user groups; and the settings needed to provide quality recreation opportunities;

(iii) Recreation opportunities on the National Forest System lands.

(2) The supply of developed recreational facilities in the area of national forest influence will be appraised for adequacy to meet present and future demands.

(3) Alternatives will include consideration of establishment of physical facilities, regulation of use, and recreation opportunities responsive to current and anticipated user demands.

(4) In formulation and analysis of alternatives as specified in § 219.3 (f) and (g), interactions among recreation opportunities and other multiple uses will be examined. This examination will consider the impacts of the proposed recreation activities on other uses and values and the impacts of other uses and activities associated with them on recreation opportunities, activities, and quality of experience.

(5) Formulation and evaluation of alternatives under paragraphs (3) and (4) above will be coordinated to the extent feasible with present and proposed recreation activities of local and State land use or outdoor recreation plans, particularly the State Comprehensive Outdoor Recreation Plan and recreation opportunities already present and available on other public and private lands, with the aim of reducing duplication in meeting recreation demands.

(6) The visual resource will be inventoried and evaluated as an integrated part of the forest planning process, addressing both the landscapes visual attractiveness and the public's visual expectation. As guided by chapter 2380, Forest Service Manual, definitive land areas of the forest will have a visual quality objective assigned as a part of the management prescription to direct management practices and the management of the visual resource.

(7) Off-road vehicle use will be planned and implemented to minimize adverse effects on the land and resources, promote public safety, and minimize conflicts with other uses of the National Forest System lands. Forest planning will evaluate the potential effects of vehicle use off-roads and, on the basis of the requirements of Part 295, of this chapter and be guided by in Chapter 2355, Forest Service Manual, classify areas and trails of National Forest System lands as to whether or not off-road vehicle use may be permitted.

(i) The effects of mineral exploration and development in the planning area will be considered in the management of renewable resources. When available, the following will be recognized in the forest plan:

(1) Active mines within the area of land covered by the forest plan;

(2) Outstanding or reserved mineral rights;

(3) The probable occurrence of various minerals, including locatable, leasable, and common variety;

(4) The potential for future mineral development and potential for withdrawal from development and

(5) The probable effect of renewable resource allocations and management

on mineral resources and activities, including exploration and development.

(k) Planning the management of the water and soil resources will be in accordance with paragraphs (1) through (8) of this paragraph, and be guided by Chapter 2310, Forest Service Manual.

(1) Current water uses, both consumptive and non-consumptive, within the area of land covered by the forest plan, including instream flow requirements, will be determined, in cooperation with appropriate government entities.

(2) Existing impoundments, transmission facilities, wells, and other man-made developments on the area of land covered by the forest plan will be identified.

(3) The probable occurrence of various levels of water volumes, including extreme events which would have a major impact on the planning area, will be estimated.

(4) Plans must comply with the requirements of the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977, the Safe Drinking Water Act, and all substantive and procedural requirements of Federal, State, and local governmental bodies with respect to the provision of public water systems and the disposal of waste water.

(5) Existing or potential watershed conditions that will influence soil productivity, water yield, water pollution, or hazardous events, will be evaluated.

(6) Measures, as directed in applicable Executive Orders, to minimize risk of flood loss and to restore and preserve floodplain values, and to protect wetlands, will be adopted.

(7) Forest planning will provide for the identification, protection, interpretation and management of cultural resources on National Forest System lands. Planning for the resource will be governed by the requirements of Federal laws pertaining to historic preservation, and be guided by Chapter 2360, Forest Service Manual, and the criteria in paragraphs (1) through (3) of this paragraph.

(1) Forest planning will:

(i) Provide an overview of known data relevant to history, ethnography, and prehistory of the area under consideration, including known cultural resource sites;

(ii) Identify areas requiring more intensive inventory;

(iii) Provide for evaluation and identification of sites for the National Register of Historic Places;

(iv) Provide for establishing measures for the protection of cultural resources

from vandalism and other human depredation, and natural destruction;

(v) Identify the need for maintenance of historic sites on, or eligible for inclusion in, the National Register of Historic Places; and

(vi) Identify opportunities for interpretation of cultural resources for the education and enjoyment of the American public.

(2) In the formulation and analysis of alternatives, interactions among cultural resources and other multiple uses will be examined. This examination will consider impacts of the management of cultural resources on other uses and activities and impacts of other uses and activities on cultural resource management.

(3) Formulation and evaluation of plan alternatives will be coordinated to the extent feasible with the State cultural resource plan and planning activities of the State Historic Preservation Office and State Archaeologist and with other State and Federal agencies.

(m) Forest planning will provide for the establishment of Research Natural Areas (RNAs). Planning will make provision for the identification of examples of important forest, shrubland, grassland, alpine, aquatic, and geologic types that have special or unique characteristics of scientific interest and importance and that are needed to complete the national network of RNAs. Biotic, aquatic, and geologic types needed for the network will be identified using a list provided by the Chief, Forest Service. Authority to establish RNAs is delegated to the Chief in § 240.13 of Title 7 CFR and in § 251.23 of this chapter. Recommendations for establishment of areas will be made through the planning process and according to the guidance for the selection of areas for RNAs and for the preparation of establishment reports as provided in section 4063, Forest Service Manual.

§ 219.13 Management standards and guidelines.

(a) Management of National Forest System lands requires adherence to the planning principles stated in § 219.11. Specific management requirements to be met in carrying out goals and objectives include, as a minimum, those in paragraphs (b) through (j) of this section.

(b) All roads, stream structures will

(1) Conserve soil and water resources, and not allow any significant or permanent impairment of riparian habitat and riparian resources.

(2) Not allow any significant long-term hazard to riparian wildlife, fish, and/or other natural physical forces

unless these are specifically accepted, as in Wilderness;

(3) Prevent or reduce serious, long-lasting hazards from pest organisms under the principles of integrated pest management;

(4) Protect streams, stream banks, shorelines, lake shorelines, and other bodies of water as provided under paragraphs (e) and (f) of this section;

(5) Provide for and maintain diversity of plant and animal communities to meet overall multiple-use objectives, as provided in paragraph (3) of this section;

(6) Be monitored and evaluated as required in § 219.5(k) to assure that practices protect soil, watershed, fish, wildlife, recreation, and aesthetic values; maintain vegetative productivity; and reduce hazards from insects, disease, weed species, and fire;

(7) Be assessed prior to project implementation for potential physical, biological, aesthetic, cultural, engineering, and economic impacts and for consistency with multiple uses planned for the general area;

(8) Ensure that fish and wildlife habitats are managed to maintain viable populations of all existing native vertebrate species and to improve habitat of selected species, coordinated with appropriate State fish and wildlife agencies and monitored in cooperation with these agencies, to the extent practicable;

(9) Include measures for preventing the destruction or adverse modification of critical habitat for threatened and endangered species;

(10) Provide that any existing transportation and utility corridor, and any right-of-way that is capable of accommodating the facility or use from an additional compatible right-of-way, be designated as a right-of-way corridor. Subsequent right-of-way grants will, to the extent practicable, and as determined by the responsible official, be confined to designated corridors;

(11) Ensure that any roads constructed through contracts, permits, or leases are designed according to standards appropriate to the planned uses, considering safety, cost of transportation, and effects upon lands and resources;

(12) Provide that all roads are planned and designed to re-establish vegetative cover on the total disturbed area within a reasonable period of time, not to exceed 10 years after the termination of a contract, lease or permit, unless the land is determined to require a permanent addition to the National Forest Transportation System and is not in National ownership at a level that is adequate for the protection and use of National Forest System resources and

that meets or exceeds applicable Federal, State and/or local standards, regulations, and as further guided by Chapter 2120, Forest Service Manual.

(c) Management prescriptions that involve vegetation manipulation of forest cover for any purpose will:

(1) Be best suited to the multiple-use goals established for the area with all potential environmental, biological, cultural resource, aesthetic, economic and economic impacts, as stated in the regional and forest plans, being considered in this determination.

(2) Assure that lands can be adequately restocked as provided in paragraph (h)(3) of this section, or that where permanent openings are created for wildlife habitat improvement, recreation uses, or similar practices,

(3) Not be chosen primarily because they will give the greatest dollar return or the greatest output of timber, although these factors will be considered.

(4) Be chosen after considering potential effects on residual trees and adjacent stands;

(5) Avoid permanent impairment of site productivity and ensure conservation of soil and water resources;

(6) Provide the desired effects on water quantity and quality, wildlife and fish habitat, regeneration of desired tree species, recreation uses, aesthetic values, and resource yields; and

(7) Be practical in terms of transportation and harvesting requirements, and total costs of preparation, logging, and administration.

(d) When openings are created in the forest by the application of even-aged silviculture, the provisions of paragraphs (1) and (2) of this paragraph apply.

(1) The blocks or strips cut will be shaped and blended with the natural terrain to achieve aesthetic and wildlife habitat objectives to the extent practicable. Openings will be located to achieve the desired combination of multiple objectives. Regional plans will provide guidance on the disposition of openings, and size variations of openings, in relation to topography, climate, geography, local land use patterns, forest type and other factors. The regional plan will specify the type of vegetation to be reached before a cutover is no longer considered an opening.

(2) Individual cut blocks, patches, or strips will conform to the maximum size limits for areas to be cut in even-aged operation established by the regional plan according to paragraph (a) of this forest types. This limit may be exceeded, but will not exceed 60 acres for

Douglas-fir forest type of California, Oregon, and Washington; 80 acres for the southern yellow pine types of Alabama, Arkansas, Georgia, Florida, Louisiana, Mississippi, North Carolina, South Carolina, Oklahoma, and Texas; 100 acres for the hemlock-sitka spruce forest type of coastal Alaska; and 40 acres for all other forest types except as provided in paragraphs (i) through (iii) of this paragraph:

(i) Cut openings larger than those specified may be permitted where larger units will produce a more desirable combination of benefits. Such exceptions will be provided for in regional plans. The following factors will be considered in determining size limits by geographic areas and forest types: Topography; relationship of units to other natural or artificial openings and proximity of units; coordination and consistency with adjacent forests and regions; effect on water quality and quantity; visual absorption capability; effect on wildlife and fish habitat; regeneration requirements for desirable tree species based upon the latest research findings; transportation and harvesting system requirements; natural and biological hazards to survival of residual trees and surrounding stands; and relative total costs of preparation, logging, and administration of harvest cuts of various sizes. Specifications for exceptions will include the particular conditions under which the larger size is permitted under these conditions.

(ii) The size limits may be exceeded on an individual timber sale basis after 60 days public notice and review by the regional forester.

(iii) The established limit will not apply to the size of areas harvested as a result of natural catastrophic condition such as fire, insect and disease attack, or windstorm.

(c) Special attention will be given to land and vegetation for approximately 100 feet from the edges of all perennial streams, lakes, and other bodies of water and will correspond to at least the recognizable area dominated by the riparian vegetation. No management practices causing detrimental changes in water temperature or chemical composition, blockages of water courses, and deposits of sediment will be permitted within these areas which seriously and adversely affect water conditions or fish habitat. Topography, vegetation type, soil, climatic conditions, management objectives, and other factors will be considered in determining what management practices may be performed within these areas or the constraints to be placed upon their performance.

(f) Conservation of soil and water resources involves the analysis, protection, enhancement, treatment, and evaluation of soil and water resources, and their responses under management and will be guided by instructions in official technical handbooks. These handbooks must show specific ways to avoid or mitigate damage, and maintain or enhance productivity on specific sites. These handbooks may be regional in scope or, where feasible, specific to physiographic or climatic provinces.

(g) The selected alternative will provide for diversity of plant and animal communities and tree species to meet the overall multiple-use objectives of the planning area. Diversity of plant and animal communities and tree species will be considered throughout the planning process. Inventories will include quantitative data making possible the evaluation of diversity in terms of its prior and present condition. For each planning alternative, the interdisciplinary team will consider how diversity will be affected by various mixes of resource outputs and uses, including proposed management practices. To the extent consistent with the requirement to provide for diversity, management prescription, where appropriate and to the extent practicable, will preserve and enhance the diversity of plant and animal communities, including endemic and desirable naturalized plant and animal species, so that it is at least as great as that which would be expected in a natural forest and the diversity of tree species similar to that existing in the planning area. Reductions in existing diversity of plant and animal communities and tree species will be prescribed only where needed to meet overall multiple-use objectives. Planned type conversion will be justified by an analysis showing biological, economic, social, and environmental design consequences, and the relation of such conversions to the process of natural change.

(h) The management requirements in paragraphs (1) through (7) of this paragraph apply to timber harvest and cultural treatments.

(1) No timber harvesting will occur during the planning period on lands classified as not suited for timber production pursuant to § 219.12(b) (1) through (3) except as necessary to protect other multiple-use values or activities that meet other objectives on such lands if the forest plan establishes that such actions are appropriate.

(2) The selected harvest schedule provides the allowable sale quantity, the quantity of timber that may be sold from the capable, available, and suitable land

covered by the forest plan during the planning period. Within the planning period, the volume of timber to be sold in any one year may exceed the average annual allowable sale quantity so long as the total amount sold for the planning period does not exceed the allowable sale quantity. Nothing in this paragraph prohibits salvage or sanitation harvesting of timber stands which are substantially damaged by fire, windthrow, or other catastrophe, or which are in imminent danger of insect or disease attack and where consistent with silvicultural and environmental standards. Such timber may either substitute for timber that would otherwise be sold under the plan or, if not feasible, be sold over and above the planned volume.

(3) When trees are cut to achieve timber production objectives, the cuttings will be made in such a way as to assure that lands can be adequately restocked within 5 years after final harvest. Research and experience will indicate that the harvest and regeneration practices planned can be expected to result in adequate restocking. Adequate restocking means that the cut area will contain the minimum number, size distribution, and species composition of regeneration as specified in regional silvicultural guides attached to the forest plan for each forest type. Five years after final harvest means 5 years after clearcutting, 5 years after final overstory removal in shelterwood cutting, 5 years after the seed tree removal cut in seed tree cutting, or 5 years after selection cutting.

(4) Cultural treatments such as thinning, weeding, and other partial cutting may be included in the forest plan where they are intended to increase the rate of growth of remaining trees, favor commercially valuable tree species, favor species or age classes which are most valuable for wildlife, or achieve other multiple-use objectives.

(5) Harvest levels based on intensified management practices will be decreased no later than the end of each planning period if such practices cannot be completed substantially as planned.

(6) Timber harvest cuts designed to regenerate an even-aged stand of timber will be carried out in a manner consistent with the protection of soil, watershed, fish and wildlife, recreation, and aesthetic resources, and the regeneration of the timber resource.

(7) Timber will not be harvested where such treatment would favor an abnormal increase in injurious insects and disease organisms.

(i) Monitoring will ensure as a minimum that:

(1) Lands are adequately restocked as specified in the Forest Plan;

(2) Lands identified as not suited for timber production will be examined at least every 10 years to determine if they have become suitable; if determined suited such lands will be returned to timber production;

(3) Maximum size limits for harvest areas are evaluated to determine whether such size limits should be continued; and

(4) Destructive insects and disease organisms do not increase following management activities.

§ 219.14 Research.

(a) Research needs for management of the National Forest System will be identified during planning and continually reviewed during evaluation of implemented plans. Particular attention will be given to research needs identified during the monitoring and evaluation described in § 219.5(k). These identified needs will be included in formulating overall research programs and plans which involve private as well as public forest and rangelands.

(b) Research needed to support or improve management of the National Forest System will be established and budgeted at the research station and national levels. Priorities for this portion of the Forest Service Research Program will be based upon the information gathered at all planning levels of the National Forest System.

(c) An annual report will be prepared at the national level with assistance from Regions and Stations which will include, but not be limited to, a description of the status of major research programs which address National Forest System needs for Research, significant findings, and how this information is to be or has recently been applied.

§ 219.15 Revision of regulations.

The regulations in this subpart will be regularly reviewed and, when appropriate, revised. The first such review will be completed no later than 6 years after the approval date of these regulations. Additional reviews will occur at least every 5 years thereafter.

§ 219.15 Transition period.

(a) Until a forest planning area of the National Forest System land is managed under a forest plan developed pursuant to these regulations and approved by the regional forest director, the land will continue to be managed under existing land use and resource plans. As far as practicable, existing plans will be amended or revised to meet the standards and guidelines in this subpart.

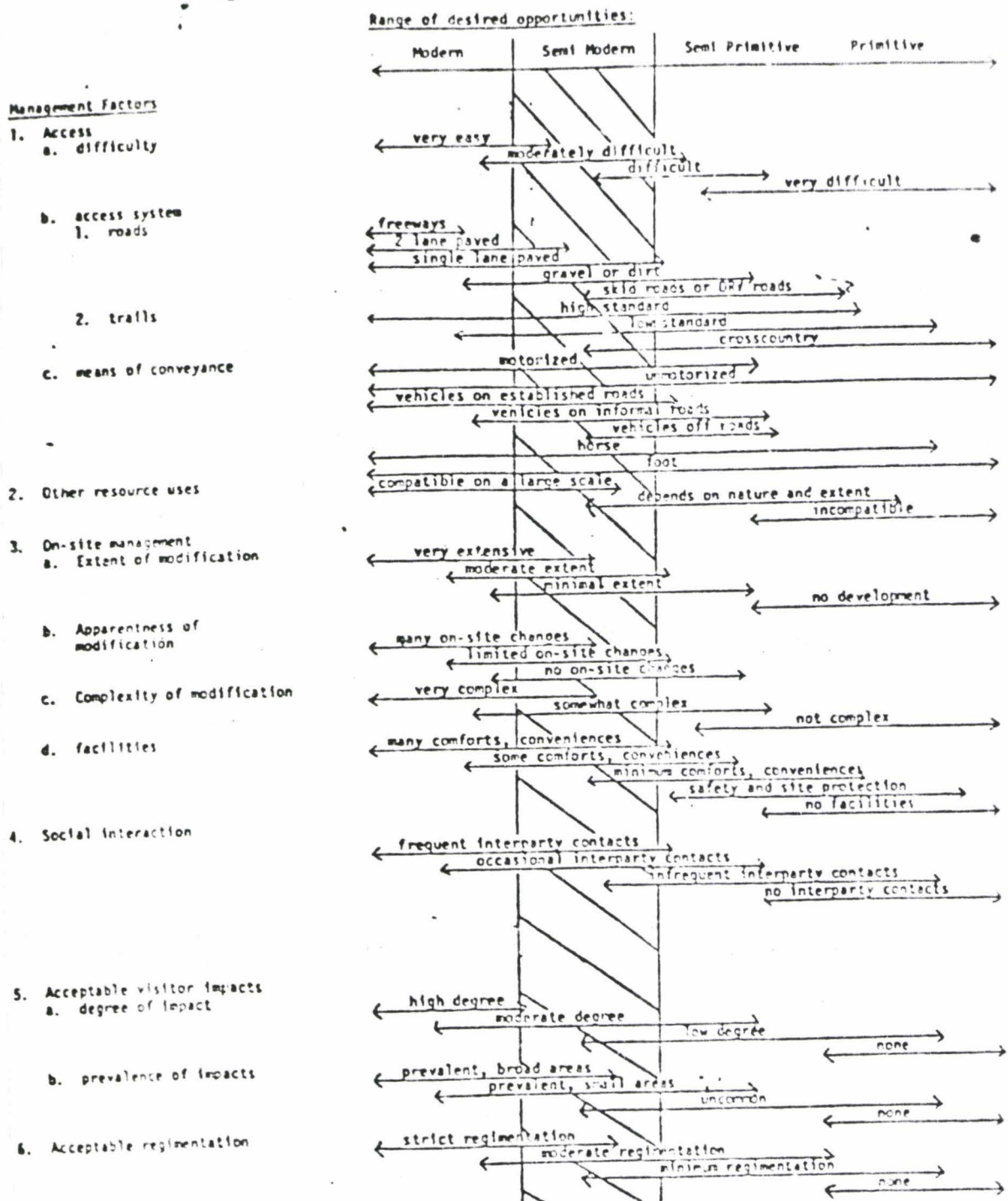
Pending approval of a forest plan, existing plans may be amended or revised to include management requirements not inconsistent with the provisions of the Forest and Rangeland Renewable Resources Planning Act, as amended, and these regulations.

(b) A forest plan may become effective prior to the development and approval of its related regional plan, provided that the forest plan will be reviewed upon regional plan approval, and if necessary, amended to comply with regional management direction. If such an amendment is significant, it will be made pursuant to the requirements for the development of a forest plan.

[FR Doc. 79-20713 Filed 9-14-79; 4:42 am]

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Figure 12--Factors Defining Outdoor Recreation Opportunities



APPENDIX C

CONTACTS

Instructors at September-October 1979 short course

Benton Box - Dean - College of Forest & Recreation Resources, Clemson University.

Fred Boyle - Graduate student, Dept. of Recreation & Park Admin, Clemson.

Bert Brantley - Associate Dean, College of Forest & Recreation Resources, Clemson.

Leon Buist - Associate Professor of Outdoor Recreation - University of Nevada, Reno.

Dick Conover - Associate Professor, RPA, Clemson University.

Ken Cordell - Project Leader - Southeastern Forest Exp. Sta., F.S.L., Athens, GA.

Dick Costley - Retired - formally Director of Recreation - F.S., W.O.

Gerry Contant - Director of Recreation Staff - Southern Region F.S., Atlanta.

Allen Dunn - Associate Professor of Forestry, Clemson University.

Bill Everhart - Retired - formerly Chief of Interpretation - NPS - W.O.

Rex Hartgraves - Director of Land Management Planning - F.S. - W.O.

Tom Heberlein - Associate Professor of Rural Sociology - University of Wisconsin.

Mack Hogans - Research Social Scientist, PNW E Sta., F.S. Seattle, Wash.

Bob Phillips - Planning Officer, National Forests of North Carolina.

Paul Saunders - Assistant Professor, RPA, Clemson University.

Dave Scott - Assistant Director of Recreation Management, F.S. W.O.

Doug Sessions - Professor of Recreation Administration University of North Carolina.

Bill Sturgeon - Recreation Planner, Heritage, Conservation & Recreation Service.

Ross Tocher - Dana Professor of Recreation, University of Michigan.

Instructors at January 24, 1983 - Recreation Opportunity
Spectrum, So. S.F.

Leon Buist - Intergovernmental personnel assignment in W.O. to
coordinate recreation planning.

Tom Hobbs - Leader, Inventory and Plans, Recreation Management
Staff - Washington Office.

Instructor - New Perspectives on Recreation Resource Management,
March 1975.

Roger Clark - Research, Social Scientist PNW For. & Rng. Exp.
Sta. Seattle, WA.

Kent Downing - Associate Professor - University of Washington,
Seattle.

John Handee - Research Forester, PNW For. & Rng. Exp. Sta. F.S.,
Seattle, WA.

Wilderness Simulation Seminar - 1975

Met with and discussed recreation management situation, carrying
capacity and use systems for wilderness with Steve McCool, Bev
Driver, David Line, Robert Lucas, George Stankey and Mordachai
Shechter.

Western Region Wilderness Training - National Park Service, 1977

Met with National Park personnel and assisted with presentation
of wilderness travel simulation. Principle contact was Jan W.
van Wageningen, Research Scientist, Yosemite National Park.

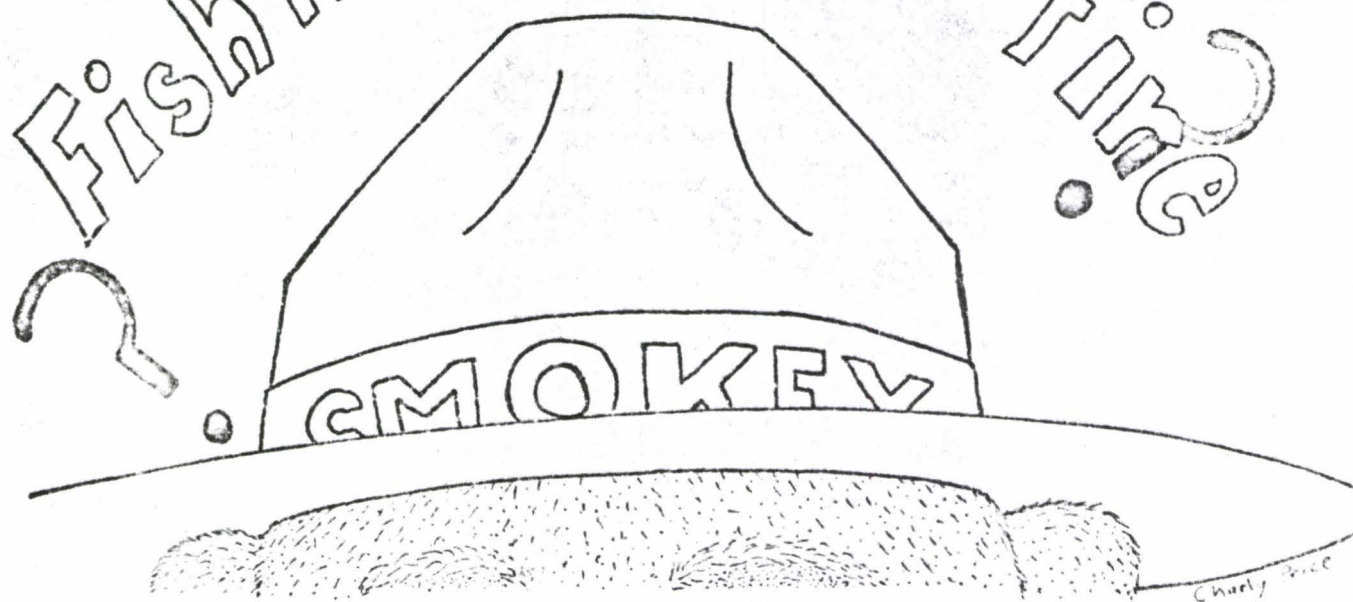
January 24, 1983 - William Enrie Park and Recreation Specialist,
State wide Planning Section, Sacramento, CA.

February 3, 1983 - Arlan Nickel - Assistant Planner, El Dorado
County Planning Department, Placerville, CA.



PRELIMINARY ISSUES & SCREENING CRITERIA

Energy
Recreation
Fish'n!
Wildlife
Timber
Lands
Fire



THE ROLF OF ISSUES IN FOREST PLANNING

National Forests provide wood, water, forage, wildlife habitat, recreation, minerals, and many more resources opportunities.

Where there are differences of opinion over the use of limited resources, these conflicts constitute issues. Resolution of these conflicts is the essence of the Forest Service's planning process.

Following is a preliminary list of issues developed by the staff of the Eldorado National Forest, and the screening criteria which will be used to select the final list of issues. The list of issues are preliminary and incomplete and are meant to serve as a starting point for public comment. Any issue must be tested against the screening criteria which are also subject to public review.

PRELIMINARY

ISSUE STATEMENT - ENERGY

October 30, 1979

I. PRESNT SITUATION

Shortage of cheap, plentiful energy has become a national concern. Consumer demands continue to rise. New methods of energy production are being explored, but people are also looking back at some of the more traditional sources like water and wood. Hydroelectric power, for instance, has been harnessed on the Eldorado National Forest since the early part of this century, yet many development opportunities still exist. Home heating by fuelwood has always been a popular local custom in mountain communities; now there is a widespread regional market for this product. Conversion of wood waste or forest biomass to electric power has an undetermined potential. Dedicating forest land base and energy-producing resources to meet changing economic and social values may cause significant trade-offs with other benefits from the same land and may impact nonmarket resources such as recreation, fish and wildlife.

II. ISSUE

To what extent should the Eldorado National Forest meet future energy needs?

III. INDICATORS OF THE ISSUE

- A. Forecasts of escalating costs and dwindling supplies of both domestic and foreign fossil fuels.
- B. Public question raised about the safety of nuclear energy.
- C. Slow development of innovative sources of energy, including solar and geothermal.
- D. The growing threat of limited economic growth tied to energy shortages.
- E. The concern for environmental impacts caused by major hydroelectric development on public lands.
- F. A growing interest in fuelwood as an alternate way of home heating; the increasing competition between private free-use and commercial woodcutters.
- G. Underutilization of timber harvest products having energy potential and the hazardous buildup of slash on logged areas.

IV. QUESTIONS TO BE CONSIDERED FOR DECISION IN THE FOREST PLAN

- A. Should the Forest Plan attempt to allocate land for hydroelectric use when the Federal Energy Regulatory Commission is the lead agency in authorizing these facilities?
- B. At what point do the social-economic needs for market commodities outweigh nonmarket resource values such as wildlife habitat stability, fish production or recreation use and development opportunities?
- C. Is an opposing stance to a major power project based on environmental loss or degradation a realistic forest land management planning choice?
- D. What is an acceptable balance between satisfying the private woodcutter and the commercial permittee?
- E. How and when does the Forest make wood waste and other biomass available for energy conversion?
- F. Should timely fuel treatment (disposal by burning, chipping, burying, removal, etc.) take precedence over reserving the biomass for future energy use?
- G. Will biomass removal be consistent with soil and air quality standards, and assure residual stand protection?
- H. What role will minerals management take in the energy issue? What opportunities exist?

PRELIMINARY

ISSUE STATEMENT - OUTDOOR RECREATION

October 30, 1979

I. PRESENT SITUATION

The Eldorado National Forest provides a wide range of recreation opportunities, which in combination with easy access from large population centers, has produced heavy use in a number of recreation activities. Total Forest recreation use in 1979 was 3,080,000 Recreation Visitor days. Heaviest use is in the activity "driving for pleasure". Other popular activities at developed sites are: family camping, winter sports and recreational residence use. Substantial use of undeveloped Forest areas takes place and includes such activities as camping, boating, fishing, hiking, cross country skiing, back packing and off-road vehicle use. Not all recreation activities are compatible with each other or with other resource activities. As a result the recreation experience of some visitors is sometimes impaired. Opportunities exist to direct some visitors to lower-use areas; however, many prefer to continue using the popular, often over crowded areas.

II. ISSUE

What kinds and amounts of recreation opportunities should be emphasized and where should they be made available?

III. INDICATORS OF THE ISSUE

- A. Growing demand for increased recreation opportunities of all kinds, such as skiing, camping and trail use.
- B. The frequent overflow crowds at popular recreation areas, such as Ice House, Loon Lake, Wrights Lake and Silver Lake.
- C. Soil and vegetation damage resulting from recreation uses in local areas. This is especially evident at uncontrolled camping areas and back-country lakes.
- D. Continued subdivision and restrictions on adjacent and intermingled private lands is increasing the demand being placed on National Forest lands for both developed and undeveloped recreation opportunities.
- E. Conflicts between motorized and non-motorized uses of forest land and water, such as snowmobiles vs. cross-country skiers and hikers vs. off-road vehicles.
- F. Conflicts between different recreation activities, such as recreation residences on lake shores vs. fishermen.
- G. Public concern over proposed RARE II allocations as they would affect recreation opportunities.
- H. Growing demand for developed/semi-developed sites and areas for use by special user groups, e.g., horse, motorcycle, 4-wheel drive, etc.

IV. QUESTIONS TO BE CONSIDERED FOR DECISION IN THE FOREST PLAN

- A. What kinds and amounts of recreation opportunities; and what experience levels should be provided?
- B. Should forest areas be zoned to eliminate conflicts between certain recreation activities? If so, to what extent?
- C. Should dispersed and/or developed recreation opportunities take precedence over other resource uses? If so, where and under what conditions?
- D. Under what circumstances should general public recreation uses take priority over existing recreation residences?
- E. What kinds and intensities of recreation activities should be planned in roadless areas allocated to non-wilderness by RARE II or the planning process?
- F. What role should adjacent and intermingled private land play in meeting recreation demand? What kinds of use? Where?
- G. Should the forest trail system be expanded to provide better access for recreationists?

PRELIMINARY

ISSUE STATEMENT - TIMBER

I. PRESENT SITUATION

There are about 311,000 acres of productive forest on the Eldorado National Forest. Under current management direction about 237,000 acres of this productive forest land is available for intensive timber management use. On the remaining 74,000 acres of productive forest land timber may be harvested, but this activity must be secondary to other non-timber management activities. The present potential yield is 138.3 million board feet per year. As the demand for the timber resource has increased, uses of many other kinds have increased correspondingly. This has created varying degrees of potential and/or existing competition for wilderness, aesthetic, recreation, wildlife, water quality and timber resource benefits.

Historically timber harvest activities were generally accepted by the public. However, in recent years public concern over the kinds of harvest methods employed, the location of timber harvest activities and the number of acres harvested and the volumes removed has increased. The basic concern is with the effect of timber management activities on the above mentioned non-timber resource values.

II. ISSUE

How intensive and how wide-spread should timber management activities be on the Eldorado National Forest?

III. INDICATORS OF THE ISSUE

- A. Concern over the impact of timber management activities on the resources and uses, with the attendant call by individuals and organizations to reduce the amount of productive forest land available for timber management activities.
- B. The continuing loss of productive forest lands to more intensive land uses such as reservoirs, pipelines, roads and powerlines.
- C. The call by individuals and groups to reduce and/or eliminate timber management practices that are valuable or cost effective in promoting commercial tree growth. An example of this would be the use of herbicides.
- D. Rising housing costs based in part on increased costs of lumber.
- E. Public concern over the effect of timber harvesting activities on the quality of the environment and scenic resource.

- F. Concern regarding application of even-aged timber management activities on fewer acres, which necessitates clearcutting, versus less intensive management over a larger area.

IV. QUESTIONS TO BE CONSIDERED FOR DECISION IN THE FOREST PLAN

- A. How far should the Eldorado National Forest go toward meeting local, regional and national demands for wood products?
- B. What are the environmental and economic trade-offs resulting from various harvest levels and other timber management activities on: community stability; wildlife habitat; scenic quality; recreation opportunities; and water quality?
- C. What level of intensity of timber management activities should be planned in the roadless areas allocated to non-wilderness under RARE II, or this planning process?
- D. How much productive forest land is suitable for timber management activities? Unsuitable for timber management activities?

ISSUE STATEMENT - LANDS

October 30, 1979

I. PRESENT SITUATION

The Eldorado National Forest has a complicated land ownership pattern. Its gross area is 787,317 acres. This total includes 203,867 acres of private property inside the forest boundary. These private parcels are mostly isolated and enclosed on four sides by government land. An opposite pattern occurs outside the forest boundary, where several small, scattered pieces of National Forest land are separated from the main body of the forest and surrounded by private property. Then the forest boundary itself forms a common line between National Forest and private ownership. When the local community was mainly a sparsely-populated rural society, neighboring land interests were generally compatible and even dependent on each other. As this society slowly urbanized and its agricultural economy gave way, contrasting land philosophies started to take over. Now a lot of conflict has entered the scene. It affects the abilities of either party to use and develop their lands as they might prefer. Consequently, this situation has caused concern with federal land managers, state and local governing bodies, private investors, forest visitors and taxpayers alike.

II. ISSUE

How should the Forest Service deal with the impact of intermingled and adjacent private land where it affects the public use of Eldorado National Forest?

III. INDICATORS OF THE ISSUE

- A. Key winter deer range and other wildlife habitat degraded by urban encroachment. Deer migration routes cut off by private property development.
- B. Opportunities for public road and trail access to National Forest land restricted, eliminated, or made infeasible.
- C. Greater frequency of requests for special use permits or easements on National Forest land to serve private development. Roads, power and telephone lines, water, sewer, etc.
- D. Increased wildfire risk as intermingled and adjacent private lands become more densely populated.
- E. Municipal planning controversies over citizen's rights to develop their private property. Numerous petitions for zone changes or exceptions.

- F. Increased litter and pollution, and reduced air and water quality in the forest environment associated with the land ownership interface.
- G. Increased trespass and law enforcement activities on National Forest land.
- H. Presence of private in-holdings in RARE II further study areas which may detract from eventual wilderness consideration.
- I. De facto restraints on Forest Service resource management opportunities because of the owner relationship: for example, altered harvest treatment where a commercial timber harvest site lies adjacent to a residential subdivision.

IV. QUESTIONS TO BE CONSIDERED FOR DECISION IN THE FOREST PLAN

- A. Should the land ownership adjustment plan for Eldorado National Forest emphasize retention or disposal of exterior government parcels?
- B. Should permits or easements to use National Forest lands be granted to private developers to enhance their investment? If so, under what conditions?
- C. Should intensive forest management, e.g., timber harvest, be practiced right next to common property lines--or should practices be buffered or modified?
- D. To what extent should the Forest Service try to exert influence over private zoning where National Forest lands are affected.
- E. What are Forest Service protection responsibilities for wildland fire where this land interface is involved?
- F. Is general acquisition and consolidation of interior private land in the best public interest--as it restricts growth, reduces the county tax base, reduces interface, eliminates the need for public services, etc.?
- G. Should the Forest Service expand its law enforcement capacity?
- H. How should the Forest transportation system be planned with respect to present ownership and anticipated adjustments?

PRELIMINARY

ISSUE STATEMENT - FISH AND WILDLIFE

October 30, 1979

I. PRESENT SITUATION

It is estimated that the Eldorado National Forest contains a total of 365 species of animal life as follows: birds 228; mammals 82; reptiles 25; fish 16; amphibians 14. In the past, public values and concerns associated with the fisheries and wildlife resources were primarily centered around harvest species associated with hunting and fishing. These species include deer, mountain quail, cottontail rabbits, gray squirrel, bear and trout. Today concern for recreation-aesthetic values and the preservation philosophy, which involves maintenance and/or enhancement of habitats for all species, are becoming increasingly important considerations. The Rare and Endangered Species Act, as well as other Federal and State laws, is an expression of these changing public values. The southern bald eagle, an endangered species, is found on the Eldorado during the winter months but is not known to nest here. Sightings of the peregrine falcon, also an endangered species, has been verified during the summer nesting period. In addition, a number of plant species found on the Forest are covered by the Rare and Endangered Species Act.

Dedicating land and other resources to meeting these changing values may cause significant trade-offs with other benefits from the same land and resources.

II. ISSUE

What kinds and amounts of fish, wildlife, and plant habitat should be provided?

III. INDICATORS OF THE ISSUE

- A. Concern over the effects of timber management activities and forest uses on fish and wildlife habitat.
- B. Concern over reductions in commodity benefits that may occur if more emphasis is placed on fish and wildlife.
- C. Comments on previous planning documents, from both individuals and organizations with a strong preservation ethic, indicate concern for:
 - 1. Wildlife species requiring old-growth climax forests.
 - 2. The effects of road construction and public use of roads on wildlife and fish habitats.
 - 3. The effects of off-road vehicle (ORV) use on fish and wildlife habitats.
- D. Concern for maintaining diversity of plant and animal communities.
- E. Concern for balancing management emphasis between harvest species and non-harvest species.
- F. Concern for protection of threatened and endangered plant species.

IV. QUESTIONS TO BE CONSIDERED FOR DECISION IN THE FOREST PLAN

- A. What is the appropriate management emphasis between harvest and non-harvest species management? Which species in both categories should receive management emphasis?
- B. How much old-growth habitat should be retained for wildlife purposes?
- C. What constitutes maintaining diversity of plant and animal communities?
- D. What effect will increases in fish and wildlife programs have on other resources and uses, particularly hydro electric potential, and timber harvest potential?
- E. How much is road construction affecting fish and wildlife habitats? Should we consider more road closures?
- F. How and to what extent can instream flows be assured to sustain fisheries?
- G. What kinds of uses and activities are appropriate in the critical riparian zones?
- H. Should county zoning consider the influence of private land development on wildlife?

ISSUE STATEMENT - FIRE

October 30, 1979

I. PRESENT SITUATION

Over the last several decades, the Forest Service has strongly promoted fire prevention. We have developed National programs with this theme. Our basic fire fighting policy has hinged on fast attack and control of fires at the smallest possible acreage. In effect, natural fire ecology was often changed. Heavy amounts of both live and dead fuel are now a hazard in many forest areas. National Forest land management practices, in some cases, have added to the fuel buildup. People have expressed an intelligent interest about the disruption of natural fire and the effect of its absence on the environment. There is also a serious concern for the protection of life and property threatened by fire--and by air pollution from the smoke. The Eldorado Forest has a good opportunity to reduce its fuel backlog. One method is prescribed burning. Another is managing escaped fire, where the strategy is to allow it to grow to a pre-established size limit. Either system can produce cost and resource benefits. However, this kind of program involves risks. Public confidence and support is therefore a necessity.

II. ISSUE

To what extent should fire be used as a way for the Eldorado Forest to reduce or eliminate its hazardous fuel backlog and enhance resource values?

III. INDICATORS OF THE ISSUE

- A. Growing public interest in this Forest Service Fire Management Program. What it means? What are the benefits?
- B. A tendency for the fire services and the public alike to cling to the traditional prevention-control fire philosophy of the past.
- C. Anticipation over the potential threat to human safety and the chance of getting unplanned damage to forest resources.
- D. Concern about increased air pollution caused by smoke from prescribed or managed fires.
- E. The possible short term effects of streamside erosion and sedimentation.
- F. The desire to explore opportunities which may enhance the forest environment and wildlife habitat by reintroducing a more natural fire cycle.
- G. The similar desire to increase water yields through vegetative type conversion by fire.

IV. QUESTIONS TO BE CONSIDERED FOR DECISION IN THE FOREST PLAN

- A. Should prescribed fire treatment in the Eldorado Forest be accelerated to reduce fuel loading and change vegetation to improve the environment? Where and for what purposes or benefits?
- B. What role should managed fire take? For what purposes and under what condition should this policy be applied in the Forest Plan?
- C. What tolerances in air and water quality standards are acceptable in relationship to both prescribed and managed fire?

PROPOSED SCREENING CRITERIA

FOR

PUBLIC ISSUES

RESOLVABILITY

SCOPE

DURATION

INTENSITY

CONSEQUENCES

A. RESOLVABILITY - CAN THE ISSUE BE RESOLVED IN THE ELDORADO FOREST PLAN?

1. Is the issue within existing Forest Service authority?
2. Does the state of the planning art allow for resolution of the issue?
3. Is the Forest Plan the best place to deal with the issue, as opposed to higher level or lower level (project) plans, other Forest Service programs or actions, or other agency plans?

Yes = In

No = Out

B. SCOPE - IS THE ISSUE LOCATED ON THE ELDORADO NATIONAL FOREST OR INFLUENCED BY FOREST ACTIVITIES?

Yes = In

No = Out

C. DURATION - IS THE ISSUE LONG TERM OR SHORT TERM?

Combine with D

D. INTENSITY - IS THE INTENSITY OF FEELINGS ABOUT THE ISSUE HIGH OR LOW?

Long term + high = In (Long)

Long term + low = In

Short term + high = In (Short)

Short term + low = Out

E. CONSEQUENCES - WOULD NOT ADDRESSING THE ISSUE STOP OR DELAY AN ACTIVITY OR RESULT IN AN ADVERSE, IRREVERSIBLE IMPACT?

Yes = In

No + Criteria D In (Long) = In

No + Criteria D In = Out

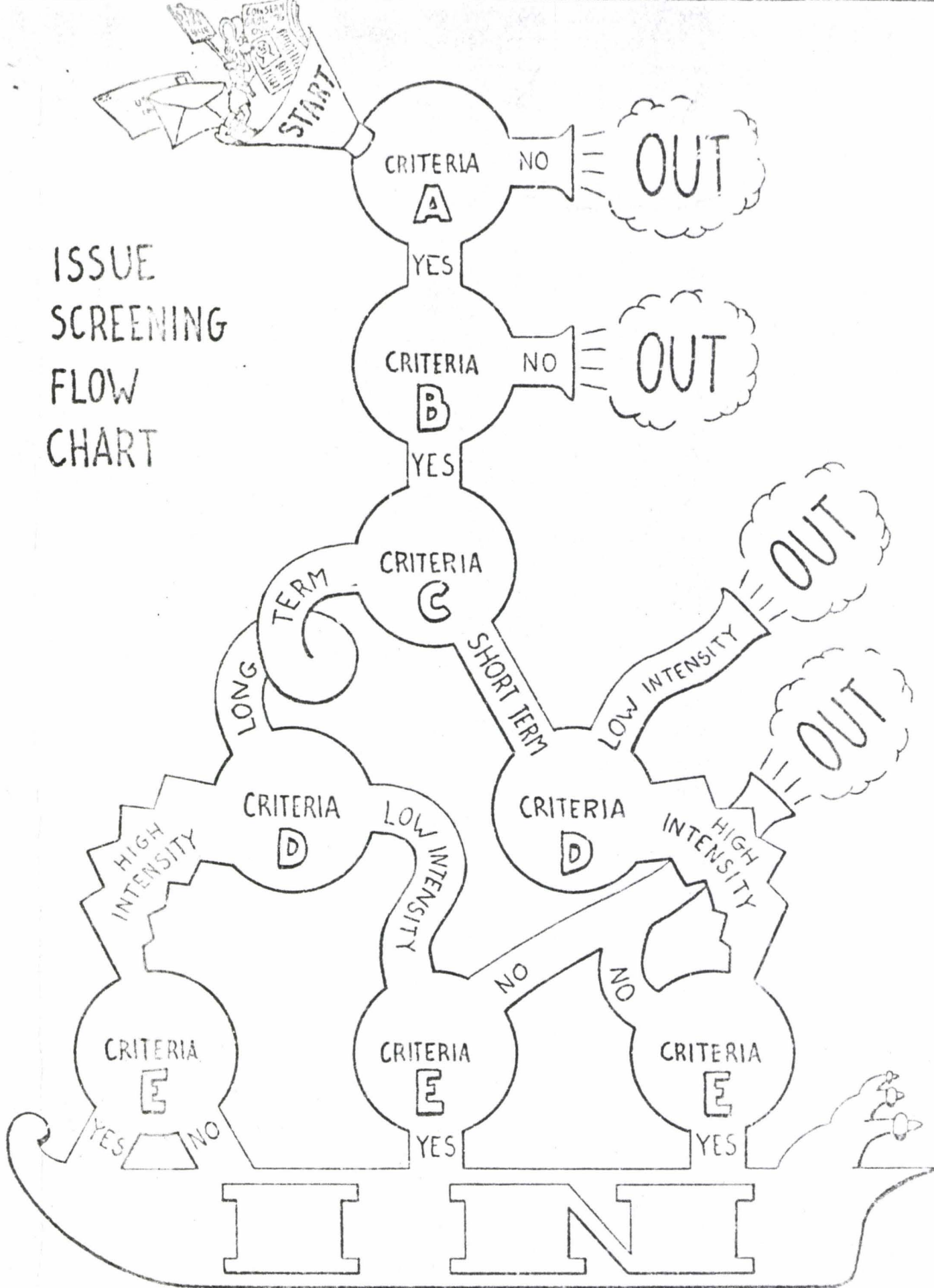
No + Criteria D In (Short) = Out

RESULTS:

In = Address the issue in the Forest Plan

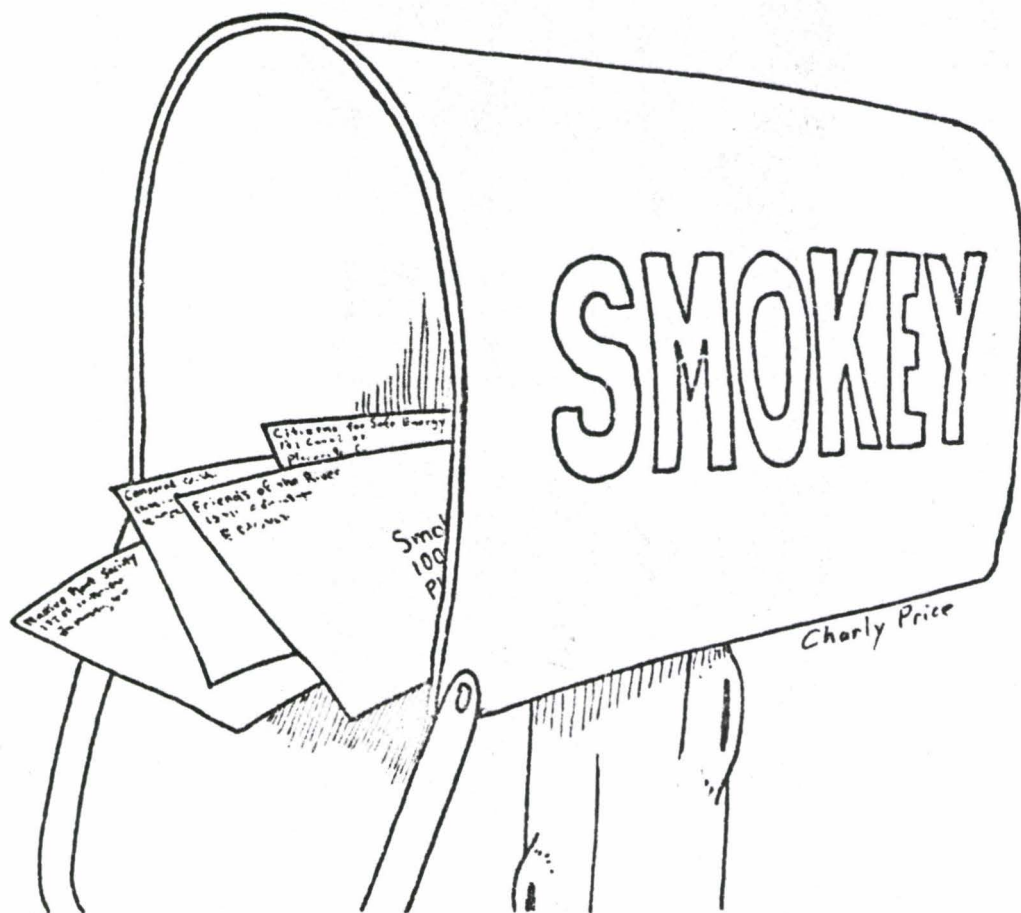
Out = Do not address in the Forest Plan

ISSUE
SCREENING
FLOW
CHART





PUBLIC PARTICIPATION PLAN



PUBLIC PARTICIPATION PLAN

On October 30, 1979, the Eldorado National Forest filed notice of intent to prepare a forest plan and concomitant environmental impact statement. The acts of Congress that describe the necessary procedures for planning in the Forest Service describe the importance and necessity for public participation. The following briefly describes steps in preparing the Forest Plan and the manner in which public involvement will be solicited and used in developing the plan.

The Forest Plan

The Eldorado National Forest Plan is one of eighteen currently being developed in the Pacific Southwest Region. The development of these plans and a Regional plan started simultaneously in order to facilitate the identification of issues to be addressed. Forest planning will be completed after adoption of a Regional plan.

This forest plan will provide policy and program direction for all National Forest System lands under the administration of the Forest Supervisor.

The Forest Plan will:

- (a) briefly describe the major public issues and management concerns,
- (b) briefly describe the lands and resources of the Eldorado National Forest,
- (c) identify the goals and objectives of management,

(d) describe the expected types and amounts of goods, services, or uses--by decades,

(e) identify the proposed vicinity, timing, standards, and guidelines for proposed and probable management activities,

(f) identify monitoring and evaluation criteria,

(g) refer to information used in plan development, and

(h) identify the persons who participated in the development of the plan, including a summary of their qualifications.

The issues expected to be discussed in the development of this plan include but are not limited to:

(a) the kinds and amounts of goods and services to be produced and the uses to be permitted on the National Forest System lands,

(b) the public costs of providing these goods and services, and;

(c) the physical, biological, economic and social effects associated with the production of goods and services.

The Forest plan will be selected from a range of alternatives which will include at least:

(a) a "no action" alternative which represents continuation of the present management direction,

(b) one or more alternatives formulated to respond to major public issues and management concerns,

(c) One or more alternatives that respond to Resources Planning Act (RPA) target ranges.

The estimated date for distribution of the draft environmental impact statement is July 1982. Following a three month public review period, a final environmental impact statement will be prepared and distributed in approximately April 1983.

Key Public Participation Points

While we intend public involvement to be open and continuous, there are three main interaction points within the process:

1. Issue identification and development of screening and decision criteria.
2. Formulation of Alternatives.
3. Review of the Draft Plan/Draft EIS.

It is intended that identification of issues and suggestions for screening and decision criteria will be collected through issue "Scoping" workshops, special meetings with groups and individuals, and mailings. A second series of meetings, working sessions and mailings are planned for the "Formulation of Alternatives" interaction point.

Interaction at the Draft Plan/Draft EIS point is planned via public mailing.

Public Participation Schedule

The following chart shows the basic steps in producing the Forest Plan, and indicated public involvement phases. Later dates should be considered tentative.

1980

1. ISSUES & CONCERNS	NOI PI
----------------------	-----------

1981

2. CRITERIA	RF
3. DATA COLLATION	
4. ASSESS MGMT. SITUATION	

-1/6/80 Close of Public Comment Period for Issues and Concerns.

-5/80 R.F. Approval of Forest Work Plan and Issues and Concerns.

-7/81 Forest to finish First Four Planning Steps

1982

5. FORMULATE ALTERNATIVES	PI
6. ESTIMATE EFFECTS	
7. EVALUATE ALTERNATIVES	RF
8. IDENTIFY PREF. ALT.	

- Evaluation of alternatives and Identification of preferred alternative for DEIS needs Regional Foresters Approval

-7/82 Draft Environmental IMPACT STATEMENT

1983

9. DEIS	
ANALYZE PUBLIC COMMENT	PI
MODIFY SELECT PREF. ALT.	RF
10. FEIS + PLAN	

-4/83 Final Environmental Impact Statement and Forest Plan

NOI = Notice of Intent

PI = Public Involvement

RF = Regional Forester Involvement



PUBLIC RESPONSE PACKAGE



ELDORADO FOREST PLAN

Identification of Issues
and
Screening Criteria

PUBLIC RESPONSE FORM

This form is provided for your convenience. We would like your comments on four main areas: 1) Comments on the issues initially identified by the Forest Service; 2) Other issues you want considered in preparing the Forest Plan; 3) Comments on screening criteria identified by the Forest Service and 4) Other screening criteria you want considered in preparing the Forest Plan. You may reply in any written format that you like.

NAME _____

ADDRESS _____

_____ ZIP CODE _____

AFFILIATION (optional)

Gov't Agency (specify

Industry (specify)

Interested Citizen _____

Environmental/Conservation Org. (specify)

Other (specify)

I. ISSUES

- A. Do you agree/disagree with the Eldorado Forest set of issues?
If you disagree, why?

1. Energy

2. Outdoor Recreation

3. Timber

4. Lands

5. Fish and Wildlife

6. Fire

B. Do you have any issues?

1. Describe your issue:

2. Tell us why you feel it is an issue:

3. Give us some specific examples of the issue, if possible.
Where and when is it happening?

3. Do you have a solution for the issue? Please describe it:

II. SCREENING CRITERIA

A. Do you agree/disagree with the Forest Service screening criteria or screening process?

B. Do you have any suggestions for other criteria? Please describe them: